UME ELEVEN

NUMBER ONE

(*Front cover*) *Spanish Renaissance design for the city hall in Redlands, Calif., seemed best to meet the requirements of modern facilities housed in that would be in keeping with the architecture of the community. William Allen and W. George Lutzi, of Los Angeles, were the architects.*

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Architectural
CONCRETE

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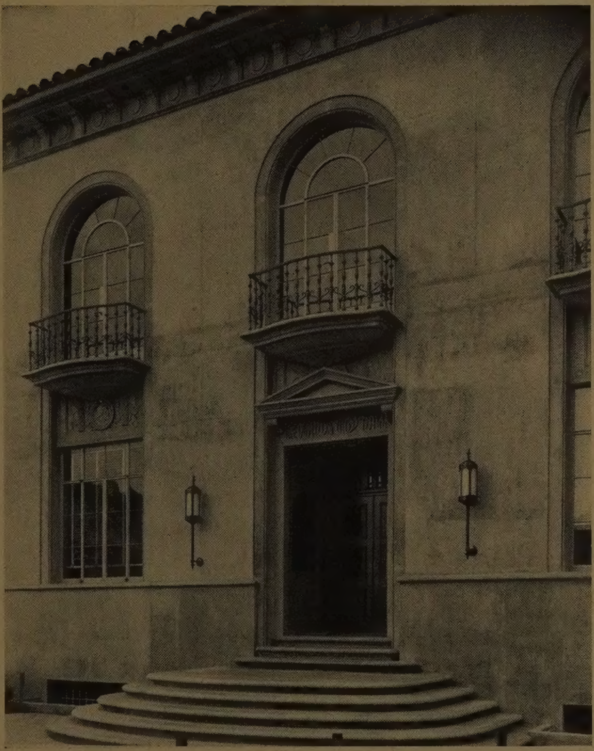
City Hall in Spanish Renaissance

By William Allen, Architect*

EDLANDS, Calif., a - city of somewhat over 000 inhabitants, located ut 68 miles directly east Los Angeles in the foot- s of the San Bernardino untains, is in a region nous for its scenic uty. It is in the midst the largest citrus fruit wing district in the rld, a district noted for navel oranges. Located a main railroad it has urally become a large it shipping center, ich gives the city com- rcial importance out of portion to its size. Civic ders had long felt the d of an adequate city l in keeping with the commercial position of Redlands but also in harmony with the atmosphere of small town quiet and beauty which is so much a part of Redlands.



A side entrance was provided leading directly to the council chamber in the basement.

A building designed in the modern style, while fitting the hustling enterprise of the commercial side of the community, would have been a discordant note in the setting of more traditional architecture of the city. A design that is Spanish Renaissance in character was accordingly chosen for the Redlands City Hall as it seemed especially appropriate from every consideration.

The building is 60x150 ft. in plan, two stories in height and has a full basement. The basement has

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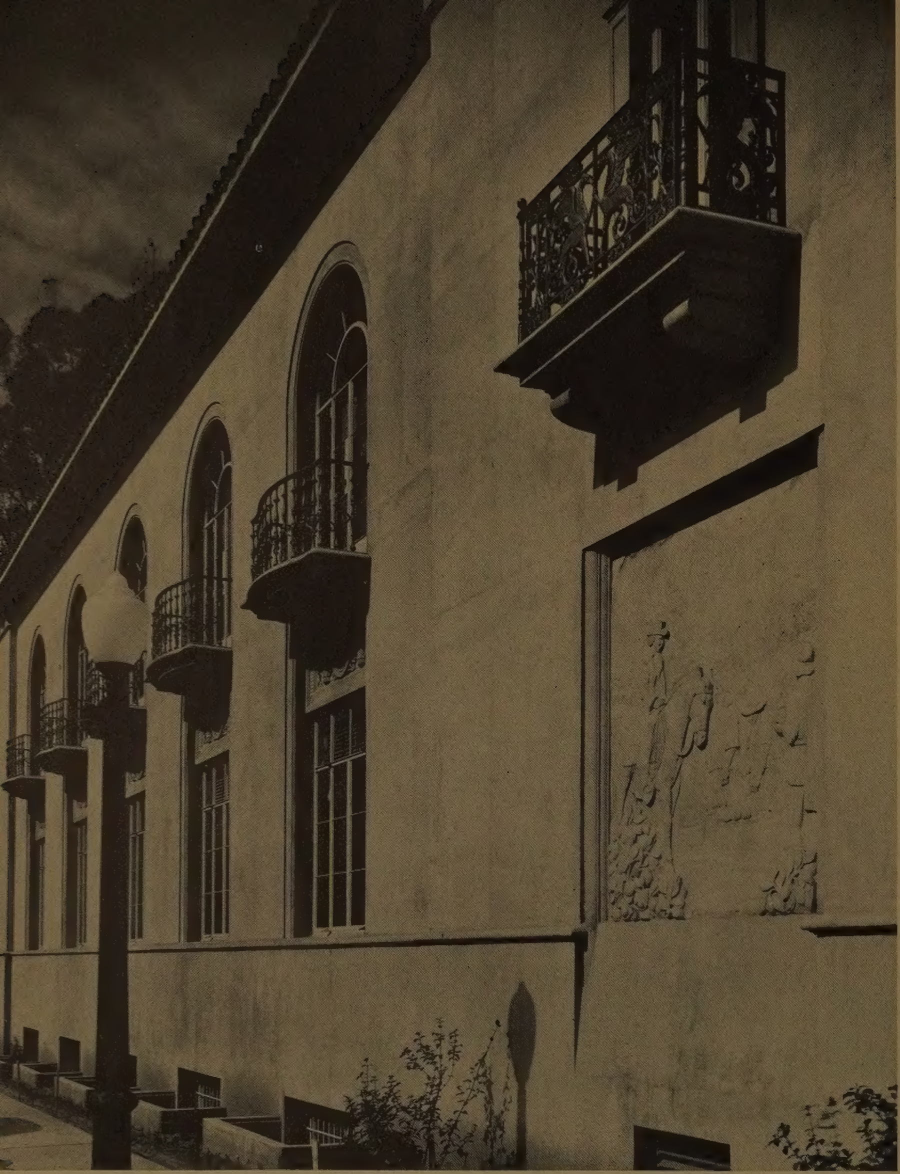
illiam Allen and W. George utzi, architects, Los Angeles, alif.



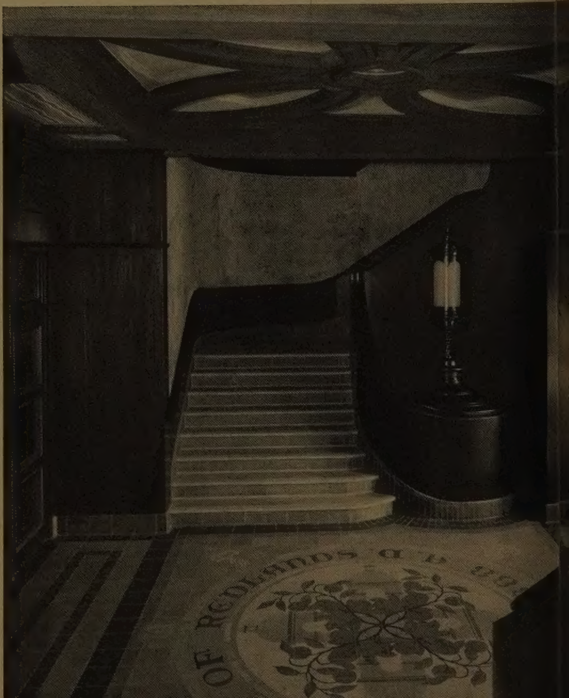
Large windows in the side elevation flood the interior with light. The ornamental panel depicting the harvesting of oranges was cast in the concrete using plaster molds.

good light from windows placed in light-wells. Here are located the council chambers and toilets for the public as well as employes. The first floor is occupied by offices and the entire second floor is used as an auditorium. The building is reinforced concrete throughout and is designed to resist earthquake forces. Structural floors are of pan-joist construction and the roof is a concrete slab on steel trusses. As will be seen in the accompanying illustrations, concrete tile have been used for some of the floor and stair finish. The city seal is worked into the floor of the main entrance lobby in this tile and is especially attractive. Similar tile were used on the walls of the foyer to the council room.

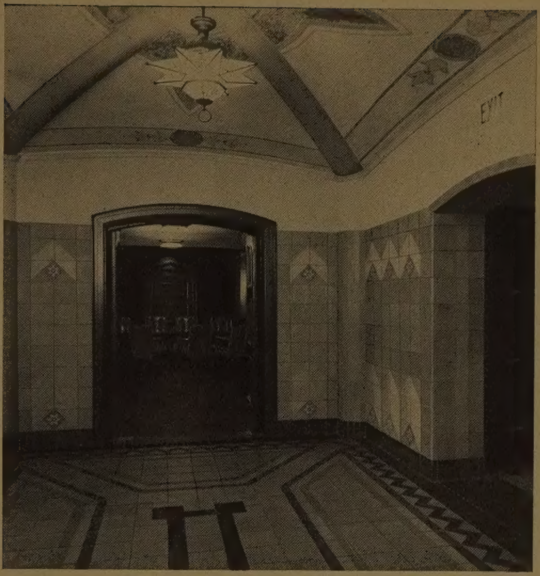
The exterior concrete walls were cast in plywood forms and the ornamental details were cast in plaster waste molds. The balconies are also cast-in-place concrete with wrought iron balustrades. Exterior lighting fixtures are bronze. Two ornamental panels were cast in the concrete. The one on the street side near the front of the building is symbolic of the city's chief industry—oranges; the other on the rear of the building is reminiscent of California history, for the first white men to visit this land arrived in Spanish galleons. Incidentally, for about 150 years the explorations of the coast made from these galleons provided the only information about California and the territory was thought of as a group of islands.

George S. Hinckley, city engineer, was in direct charge of the project for the city. William Allen and W. George Lutzi, of Los Angeles, were the architects.

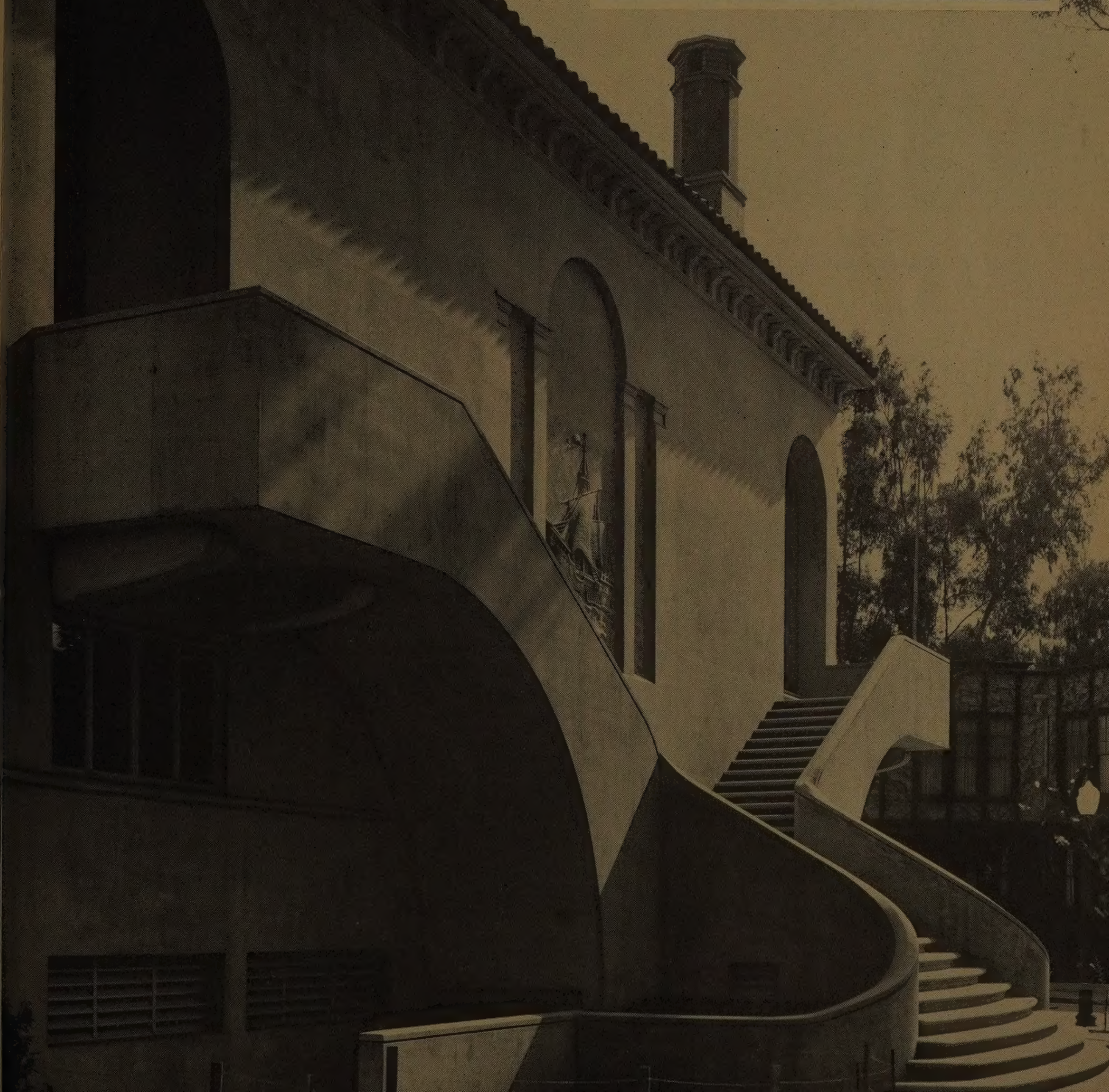
The city seal in colored concrete floor ti paneling and trim, and bronze lighting fi tinguish the main entrance lobby on the

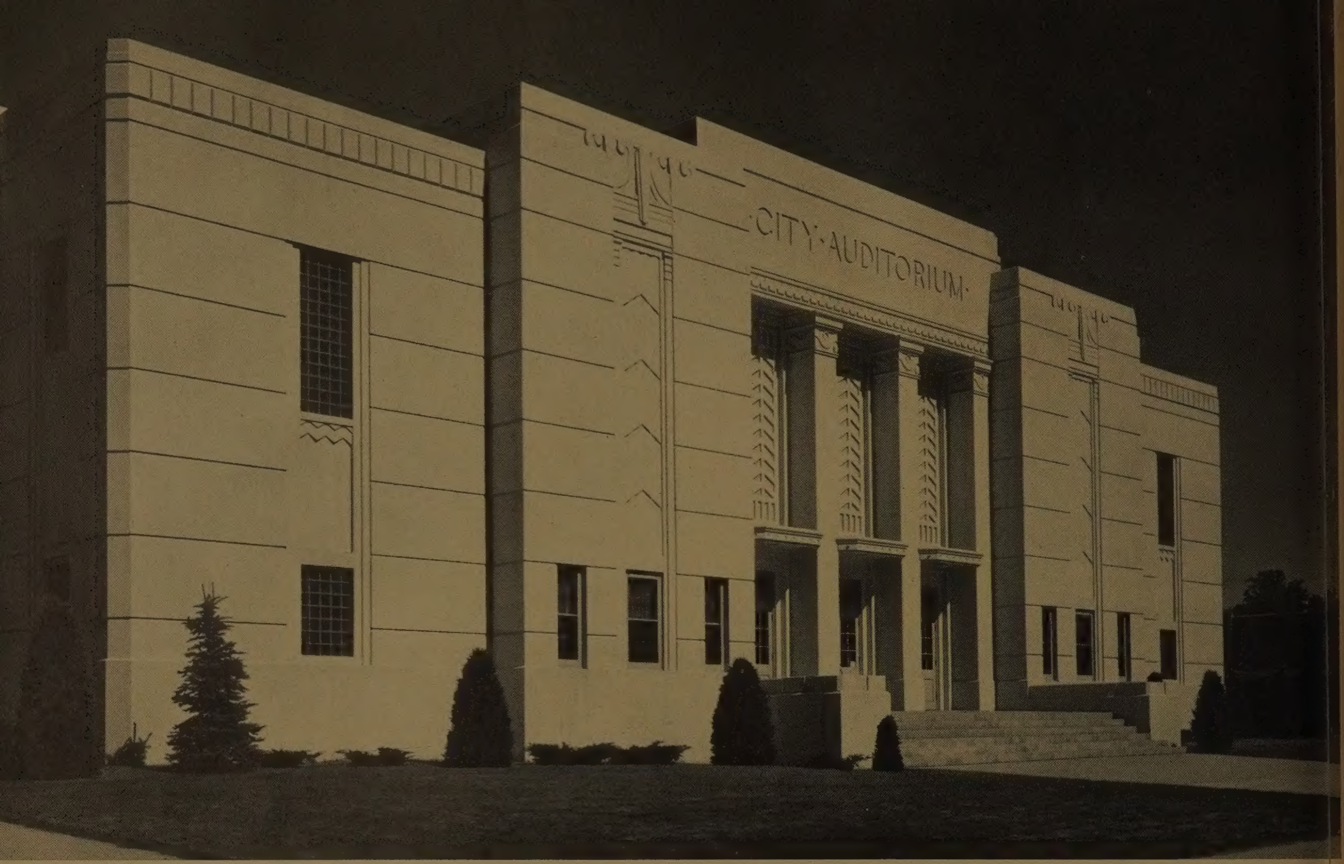


Concrete tile have been used on the floor and walls of the foyer to the council room located in the basement. The vaulted ceiling is decorated acoustical plaster.



graceful divided stairway leads from the auditorium on e second floor. The Spanish galleon in the panel facing the wer flight of stairs is another waste mold formed detail.





The York, Neb., City Auditorium has a main auditorium seating 2,200. In addition there are a small auditorium seating 150, offices for the mayor d other city officials, the council chamber and headquarters for the chamber of commerce and the American Legion. Meginnis & Schaumberg, of Linch, Neb., were the architects.

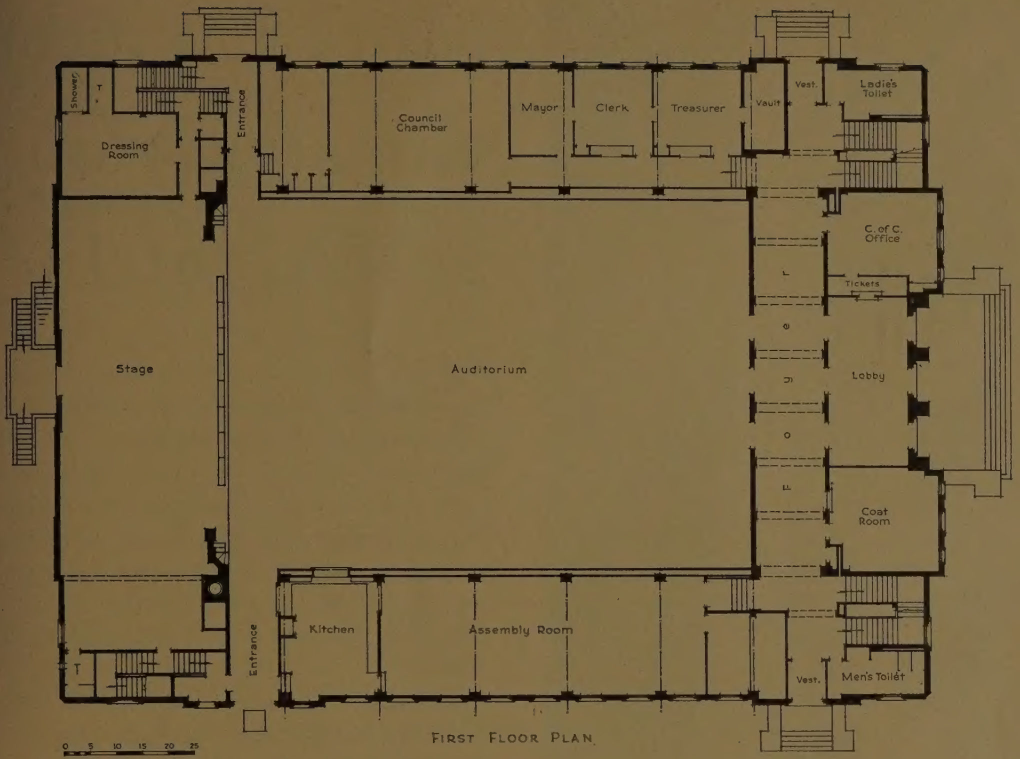
Municipal Auditorium, York, Neb.

Horizontal rustications extend around the building. These provide convenient locations for construction joints.

YORK, Neb., has one of the finest municipal auditorius of any community of its size and comparable to thosn much larger communities. It is a dream of long years coe true and will be a lasting memorial to the progressive spt of the people it will serve. The building represents an -vestment of $212,563 for labor and materials.

Exterior walls are concrete having the smooth finh resulting from casting the concrete in plywood fors. Horizontal rustications have been placed at uniforry spaced intervals. All horizontal construction joints occur the rustications and therefore are not visible. The mold details were produced by the use of milled wood and plasr molds. The building has been painted a soft buff cor with portland cement paint.

The main auditorium has a seating capacity of abt 2,200 and has a commodious stage and dressing roos. Seats on the main floor are removable and can be stod

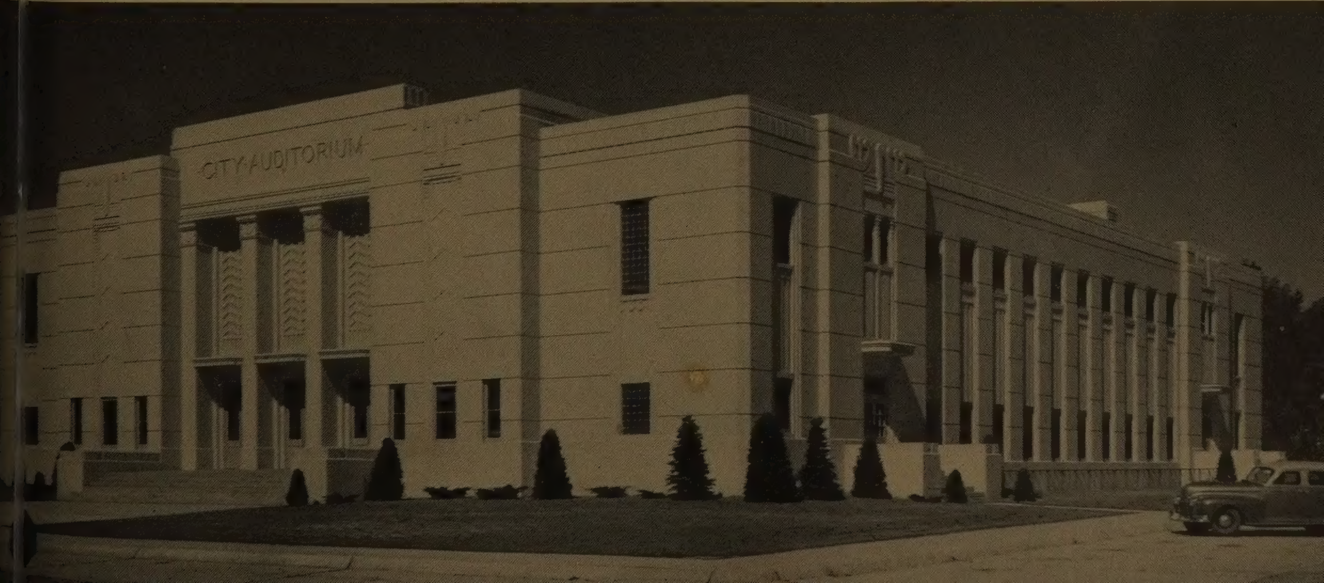


un er the stage when the floor is to be used for dancing, ba etball games and like purposes. Balconies have been pr ided on three sides with seats permanently bolted to th concrete floor. The smaller auditorium under the north ba ony seats about 150. Offices for the mayor, city clerk an city treasurer and a roomy council chamber are provi d under the south balcony. A large room on this floor ha also been set aside for the chamber of commerce.

ovision is made in the basement for a room leased to the American Legion, a three-room apartment for the caretaker and a room for the heating plants. Two heating systems have been installed, a hot water system for the offices and a hot air system for the auditorium section. Most of the basement is taken up by a large unfinished room which may be used later as a historical museum or prepared to accommodate certain kinds of public affairs.

Meginnis & Schaumberg, of Lincoln, Neb., were the architects.

ll orative features were cast in the concrete using milled lumber or plaster molds set in the forms. Tall piers and canopies mark the main entrance.

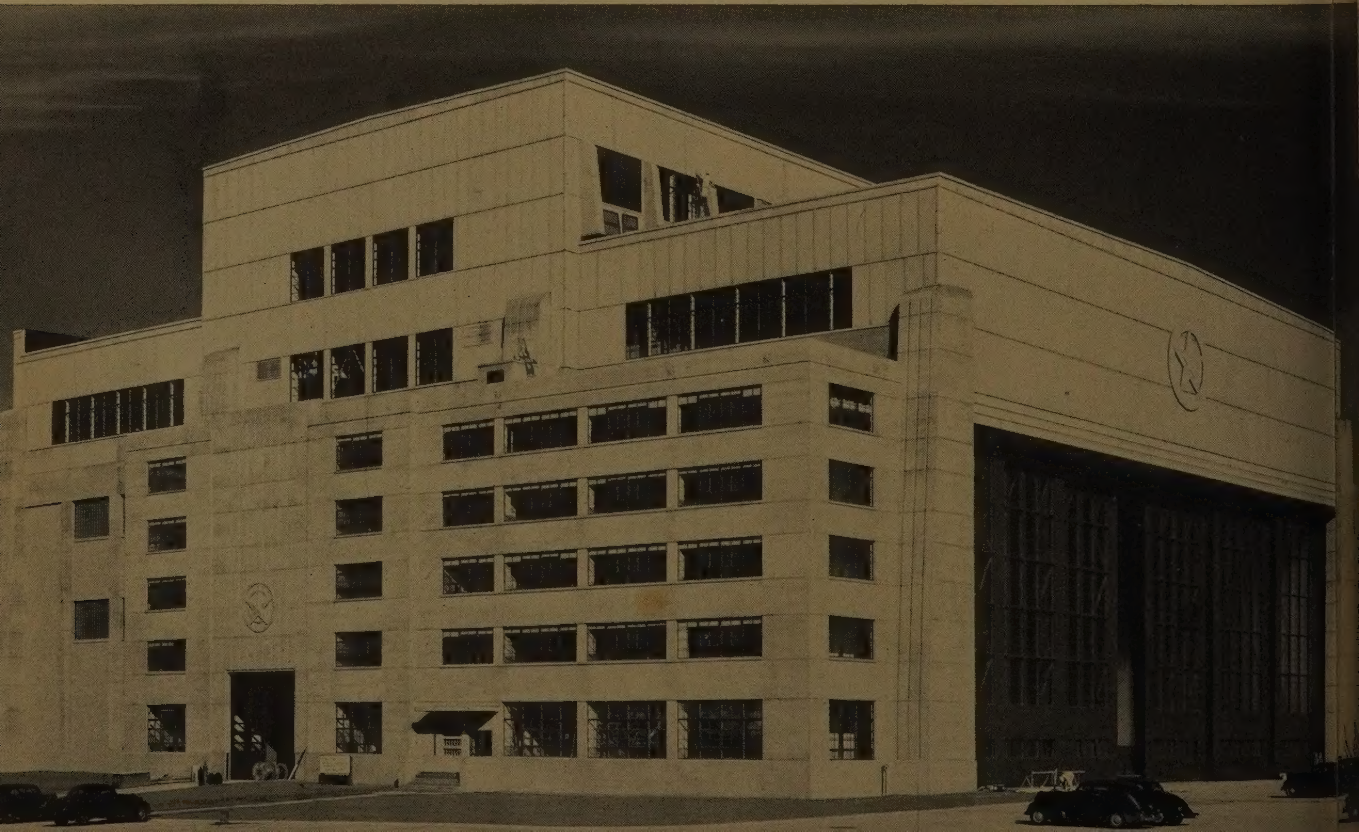


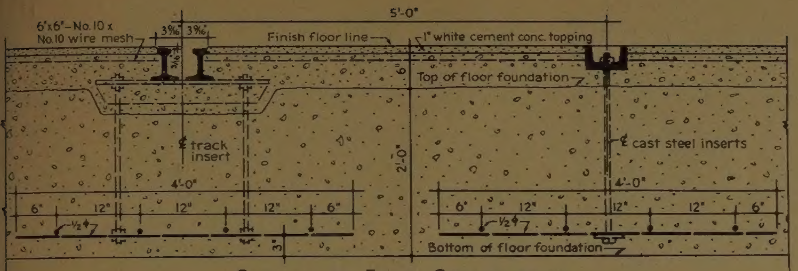
Structures test laboratory, Wright Field, Dayton, Ohio. The five-story sections on each side are reinforced concrete with architectural concrete walls. Upper central section is steel frame with corrugated cement asbestos siding. Hazelet & Erdal, Chicago, Ill., architects and engineers for Wright Field District Office, U.S. Engineers. F. K. Vaughn Building Co., Hamilton, Ohio, contractor.

More Concrete Construction at Wright Field

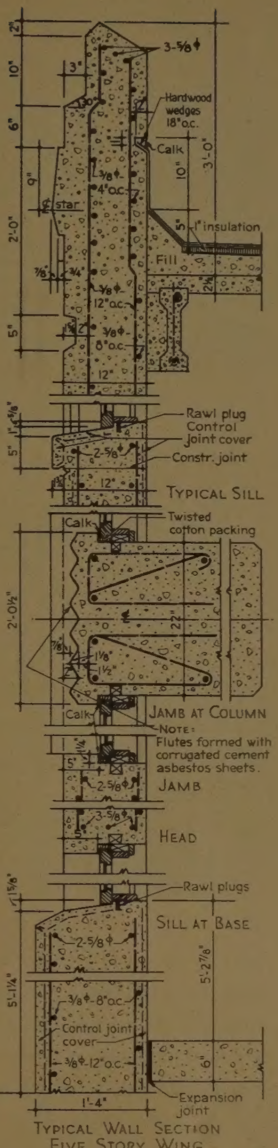
AIR combat has presented engineers with many n and highly technical problems in the testing of e airplane as a weapon of war. The testing problems, in tu, have required the development of many unique structus, in some cases with little precedent to assist the designersn deciding how or what to build. To meet the job put upo them by the Army Air Forces, the U.S. Engineers at Wright Field have pioneered in producing unusual structures n concrete.

A number of these were illustrated in Architecturl Concrete, Vol. 9, No. 1, but of equal interest are sevel more recently completed. These are the new structures tt laboratory, where all conditions of airplane structul failures will be simulated; five huge flight test hangars, e cost of which built in concrete compared favorably wh that of the originally proposed temporary construction; e acoustical enclosure for the propeller test whirl rigs, but to muffle the terrific noise of propellers whirled to destr-





SECTION OF FLOOR CONSTRUCTION
STRUCTURES TEST LABORATORY



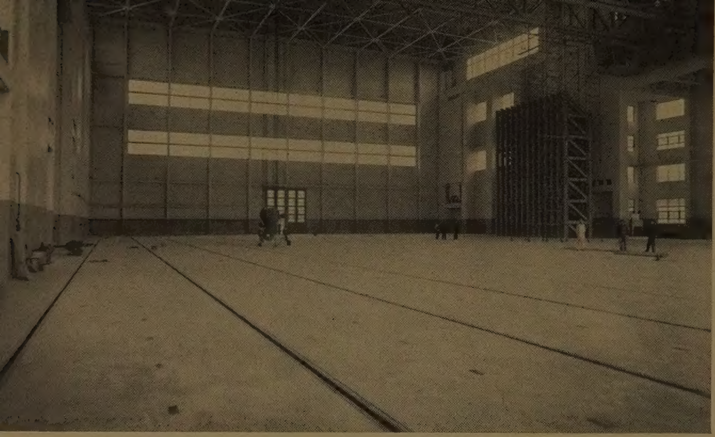
TYPICAL WALL SECTION
FIVE STORY WING
STRUCTURES TEST LABORATORY

ti and having the appearance of a series of gigantic h eycombs; and the vertical wind tunnel, a round tower c structed to test trick spin characteristics of planes and tl performance of parachutes. A feature of the latter struc- tu is the streamlined supports for the interior tower which a broad at the back and come to a fine edge at the front, s haped to direct the strong wind currents.

Vhen the structures test laboratory was under construc- ti , one got the impression that two immense buildings of si ilar shape were being built, so far apart are its massive c crete walls. These are the two 5-story buildings forming si walls of the central portion of the structure. They are e h 69 ft. high from grade to top of parapet and are used f offices and shops. To minimize use of form lumber, fl rs are supported on precast concrete joist and cast-in- p ce concrete beams.

Along the inside walls of these units are eight tapering p rs which support the roof framing for the central section a l two cranes of 75- and 150-ton capacity. The four c ner piers rise to a height of 81 ft. 6 in., and the four c ter piers are 90 ft. 2 in. in height. These piers are about 1 22 ft. at the bottom. The central section has a clear f or area of 170x250 ft. The concrete floor is 30 in. thick a l is founded on solid rock. Steel anchor slots, embedded in the floor slab for securing planes and testing equipment to the floor, run the length of the building on 10-ft. centers. There are 800 short slots between the long ones. Each of the slots is designed to withstand a sudden upward force of 10,000 lb. Airplanes will be anchored into these slots and tested to reveal their weaknesses. They will also be tested by dropping them on the concrete floor which is designed to withstand very severe abuse. The larger crane is equipped with a huge hook, so devised that it can release instantaneously a weight of 150 tons. So great will be the rebound of the crane when the load is released, that special clamps have been provided to keep the crane on the rails.

In the early stages of constructing the structures test laboratory the project presented the appearance of five-story twin buildings.



The central testing section of the structures test laboratory has an unobstructed floor area of 170x250 ft. Steel anchor slots for attaching planes and testing equipment are embedded in the 30-in. thick concrete floor slab.

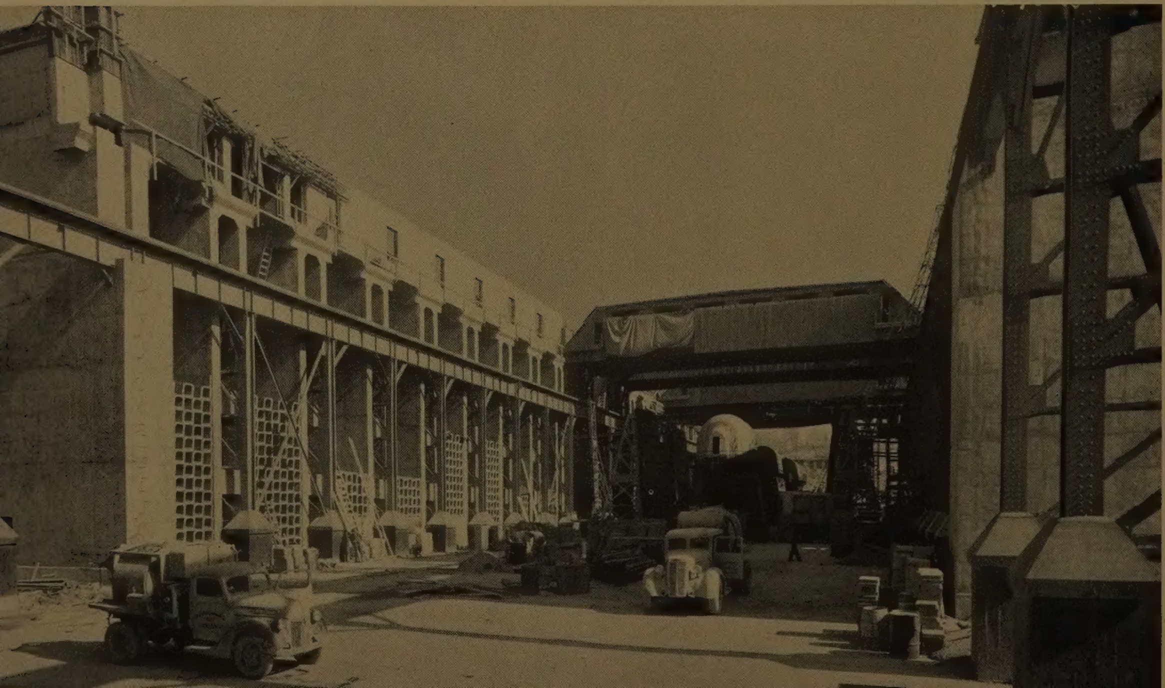
Roof construction consists of acoustical or "popcorn" concrete, precast in 2½-in. channel tile supported on purlins spaced at 6-ft. 3-in. centers. The roof is 132 ft. above grade. The walls of the central section above the five-story outer wall unit are of corrugated cement asbestos siding attached to the steel frame. The six hangar-type doors weigh 19 tons each and close an opening 60 ft. high and 170 ft. wide.

The architectural concrete walls of this building were formed with rough-sawed square-edged boards of 4-, 6-, 8- and 10-in. widths. This produced a rugged but interesting texture. The inside wall surfaces were formed against plywood forms to produce smooth surfaces. Vertical control joints were provided at about 20-ft. intervals. Horizontal construction joints are concealed in the rustications at the tops and bottoms of window openings. The rustications were continued over the outside faces of the end piers. Vertical fluting in the sides of these piers and in the panel over the main entrance, the Army Air Forces insignia over the doorway and the stars in the coping are the only other ornamentation. This ornamentation was cast in the concrete.

As architect-engineer, the firm of Hazelet & Erdl, Chicago, prepared the plans and specifications under the jurisdiction of Wright Field District Office of the U.S. Engineers. The contractor was F. K. Vaughn Building Co., Hamilton, Ohio.

The acoustical enclosure for the propeller test whirl rigs acts like an immense sound muffler and is so designed that it permits free circulation of air so as not to affect the propeller tests. Previous to its construction, the three test stands, served by a crane, stood out in the open. The airplane propellers are attached to these rigs and are driven to destruction. This vain beating of the air by propellers held firmly in place created a din that could be heard 10 miles away, impaired worker efficiency and even induced illness. Some employes rebelled and refused to work. Most of the testing was therefore done at night.

Given the problem of muffling this noise, the U.S. Engineers ordered an all-concrete enclosure that has proved so successful the noise created by the testing is now not disturbing even across the road from the building. This was accomplished by a combination of solid concrete walls and acoustical baffles of honeycomb construction. The baffles are precast concrete tubes 6 ft. long and 2 ft. square with walls 3½ in. thick. They are made of lightweight aggregate of one size, producing a popcorn texture so porous that smoke can be blown through the 3½-in. walls of the baffles. These tubes are laid so that they slope slightly upward from the inside and outside wall surfaces to the center of the wall. A sound-absorbing roof consisting of a 3-in. plank roof



Construction view
acoustical enclosure f
propeller test whirl ri
showing arrangeme
of solid wall an
acoustical baffle su
rounding the origin
craneway.

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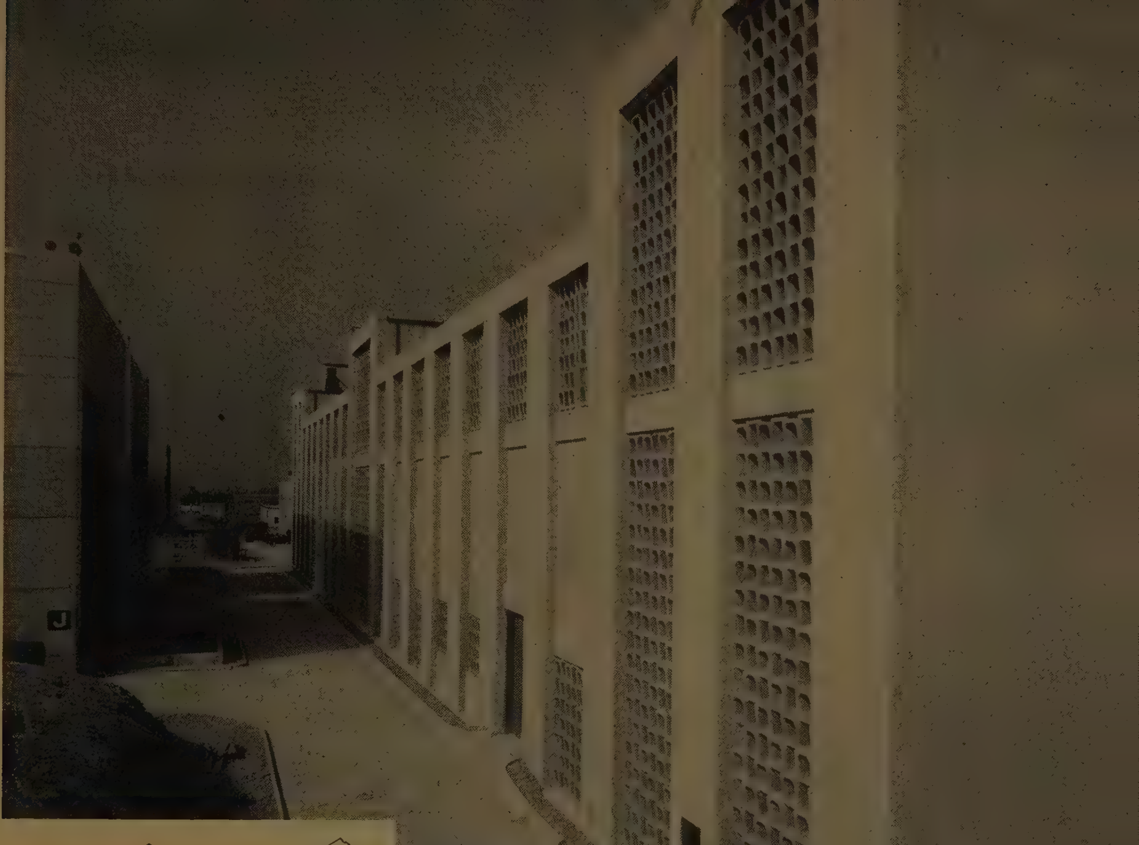
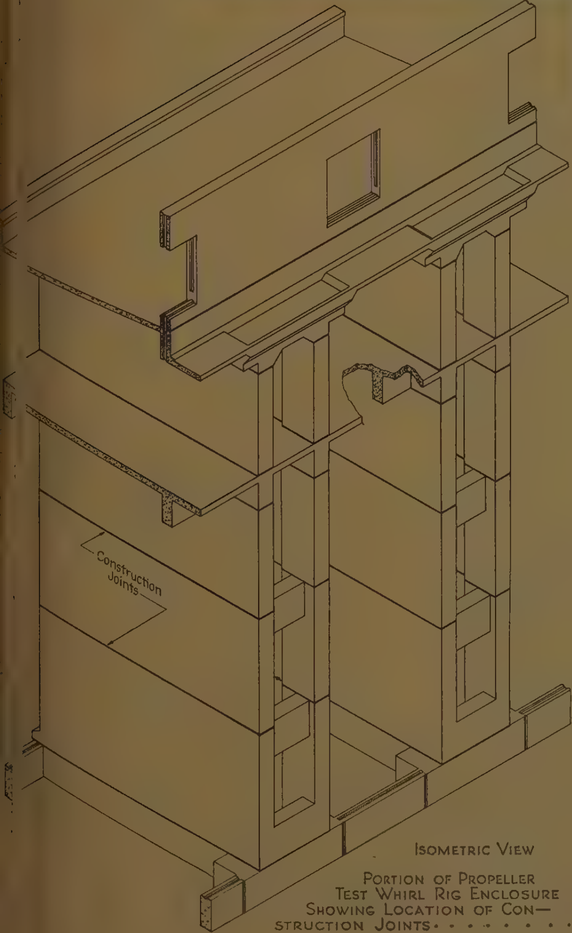




Isometric View
Portion of Propeller
Test Whirl Rig Enclosure
Showing Location of Con—
struction Joints. . . . .

deck on wood trusses and a 3-in. slab of lightweight aggregate concrete over the planking was also provided. Steel A-frames enclosed in the concrete walls support crane girders the length of the building which is 445 ft. A concrete floor which supported the rigs and frames was left untouched when the enclosure walls were erected.

An unusual feature of this structure is a concrete soundproof door, 22 ft. 6 in. wide, 36 ft. high and 12 in. thick. The concrete is in a frame of steel channels. The door operates on a railroad track and closes the opening through which the crane brings in material to be tested.

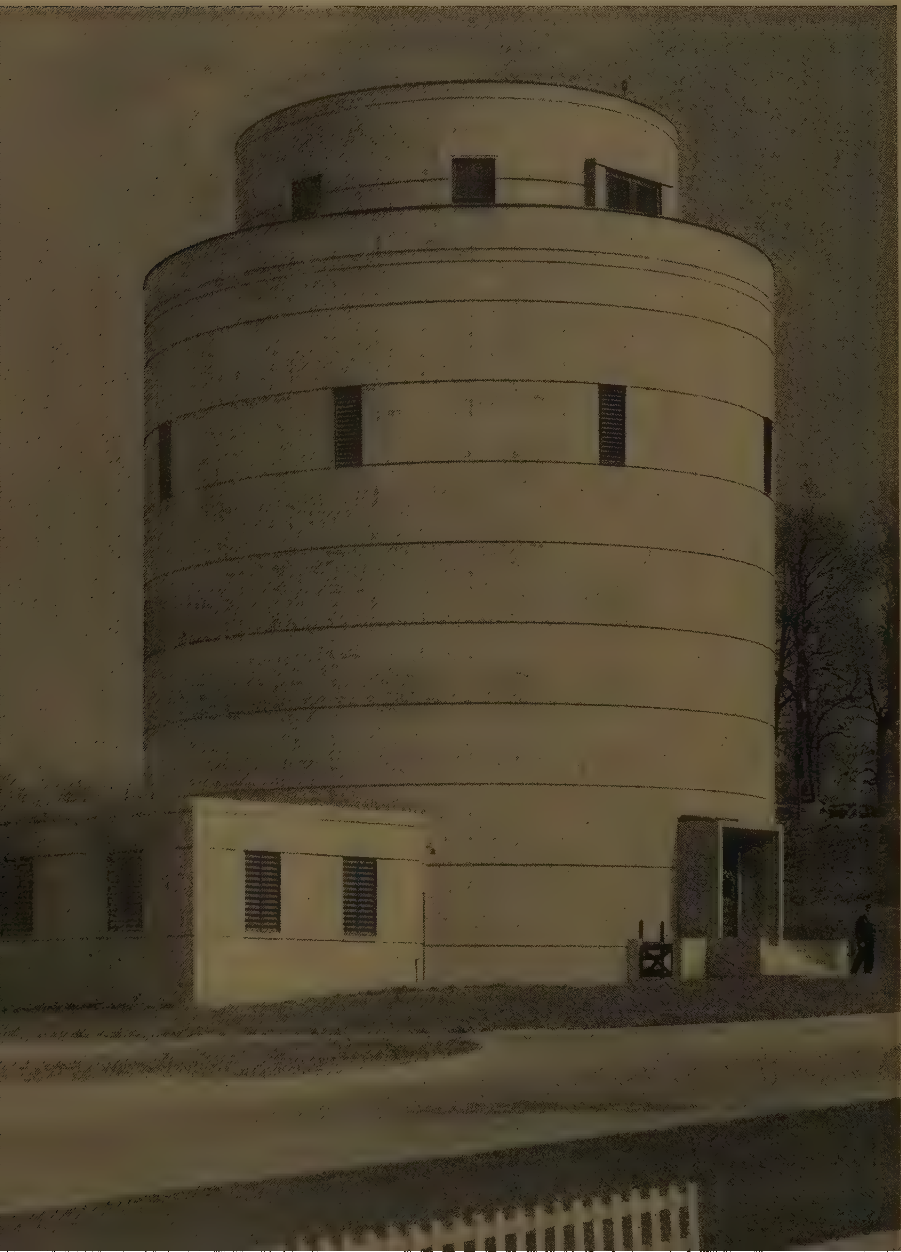
Steel panel forms were used in the wall construction, giving a square pattern on the exterior surface which harmonizes with the cell forms of the tubes, and producing a pleasing geometric design and an over-all satisfactory architectural effect. Unusual for this structure were the architectural plans which included isometric drawings to show the location of horizontal construction joints.

The architect-engineer on this acoustical enclosure was Allen & Kelley, Indianapolis, Ind., under the direction of the Wright Field District Office of U.S. Engineers. A. Farnell Blair, of Decatur, Ga., was contractor. Price Bros., of Dayton, made and erected the precast concrete tubes.

The most exacting form job the U.S. Engineers at Wright Field have had to deal with was on the vertical wind tunnel. This structure is a round tower 65-ft. 8½-in. outside diameter enclosing an inner concrete shell of 40-ft. outside diameter. The outer wall is 10¼ in. thick, and the inner wall is 8 in. thick. Between these two walls air is made to circulate at speeds up to 100 miles per hour. The air passes up through the inner shell giving realistic conditions for testing and correcting the performance of model airplanes in characteristic spins. Model parachutes are also tested in an effort to achieve corrections that will reduce the whipping and side-slipping that makes landing so hazardous.

Within the inner enclosure there are two "throats" lined with maple flooring. All other surfaces are concrete. The inner enclosure is supported by concrete pillars which are of so-called teardrop shape in cross section, made in this shape to reduce friction of the wind currents to a minimum. They are faced at the points and at the rounded ends with sheet steel to give smoother surfaces. They are 1 ft. in. thick at the rounded end, taper to a point and are of two lengths, the inside pillars being 6 ft. 3 in. long and the outer pillars 4 ft. 5 in.

The tower is 58 ft. 4 in. high with a round penthouse housing a motor, rising 16 ft. above the tower wall. A small one-story motor generator house adjoins the tower at the base. The fan propeller at the top of the tower is 1 ft. in diameter and operates in a circle of concrete faced with steel, built to ¹⁄₁₆-in. tolerance. This fan pulls the air up through the tower and then the upper throats, then sends it down between the outer and inner shells in a continuous recirculating stream.



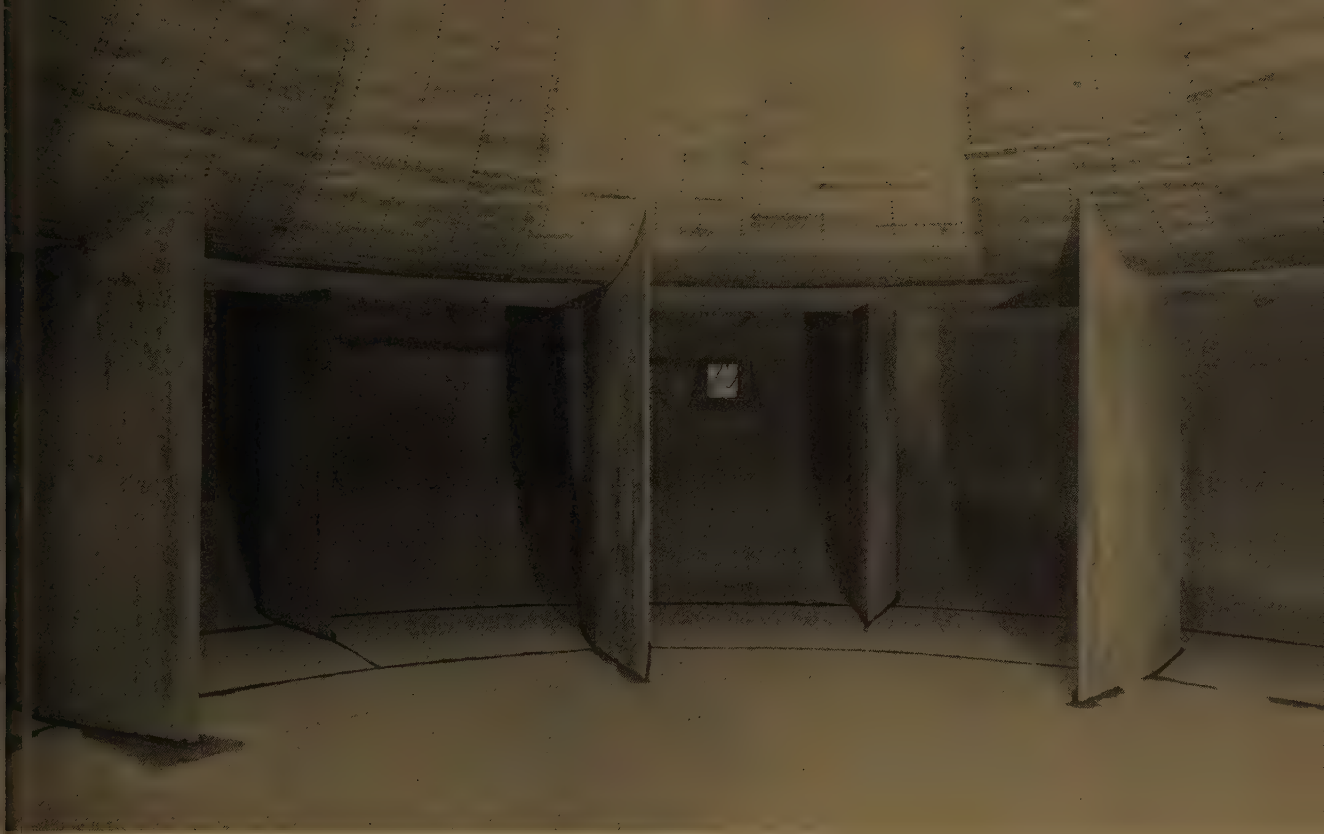
Planes tested are modeled to ¹⁄₂₀ scale, weighted in all parts in exact proportion to actual planes. They are found to react to spins exactly as the full-sized planes. The tests conducted in this vertical wind tunnel have been impossible to make in the horizontal tunnels of which there are several in this country.

The exacting requirements of the form-work may be realized when the smooth surfaces are examined. Forms used for the exterior walls were lined with Presdwood and built in panels 6 ft. 6 in. high. These were raised and used in 11 lifts.

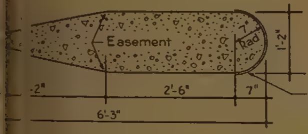
The vertical wind tunnel was designed by Potter, Tyler & Martin, and Hunt & Allan, of Cincinnati, Ohio, as architect-engineer, under supervision of the Wright Field District Office of U.S. Engineers. Frank Messer & Sons, Inc., of Cincinnati, was the contractor.

Another building of interest is the test chamber for the high altitude wind tunnel. The building is 75 ft. 6 in. by 107 ft. 4 in. in plan with an over-all height of 57 ft. in.

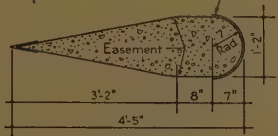
Vertical wind tunnel, Wright Field, Dayton, Ohio. This structure has an inner shell 40 ft. in diameter and an outer shell 65 ft. 8½ in. in diameter. The one-story structure houses the motor generator equipment. Potter, Tyler & Martin, and Hunt & Allan, Cincinnati, Ohio, architects and engineers for Wright Field District Office of U.S. Engineers. Frank Messer & Sons, Inc., Cincinnati, Ohio, contractor.



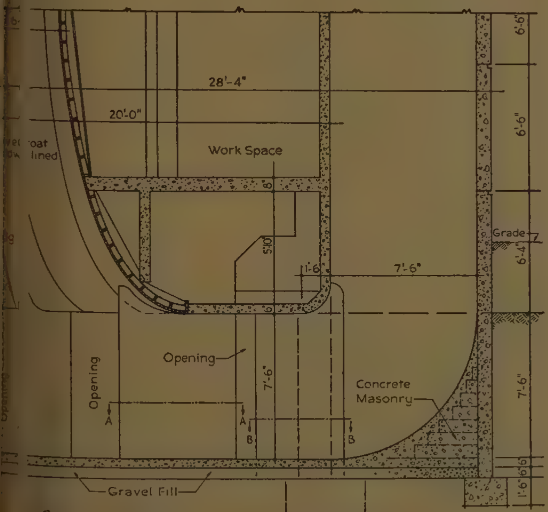
ction at bottom of vertical wind tunnel. The concrete vanes support the inner shell and are shaped to a sharp edge to reduce air friction. The throat
h hardwood flooring.



SECTION A-A

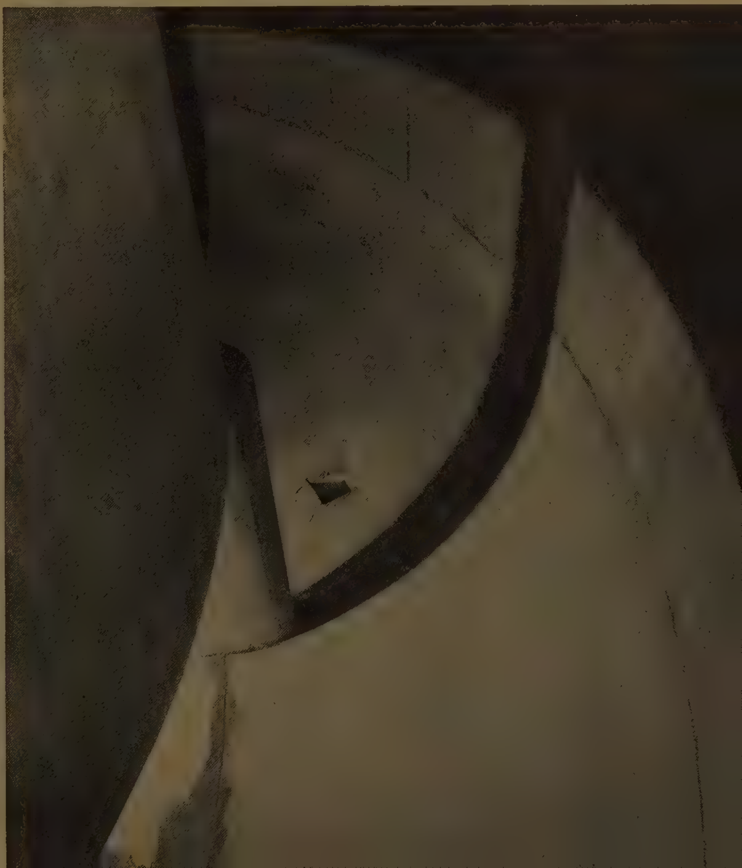


SECTION B-B



SECTION THROUGH
ERTICAL WIND TUNNEL

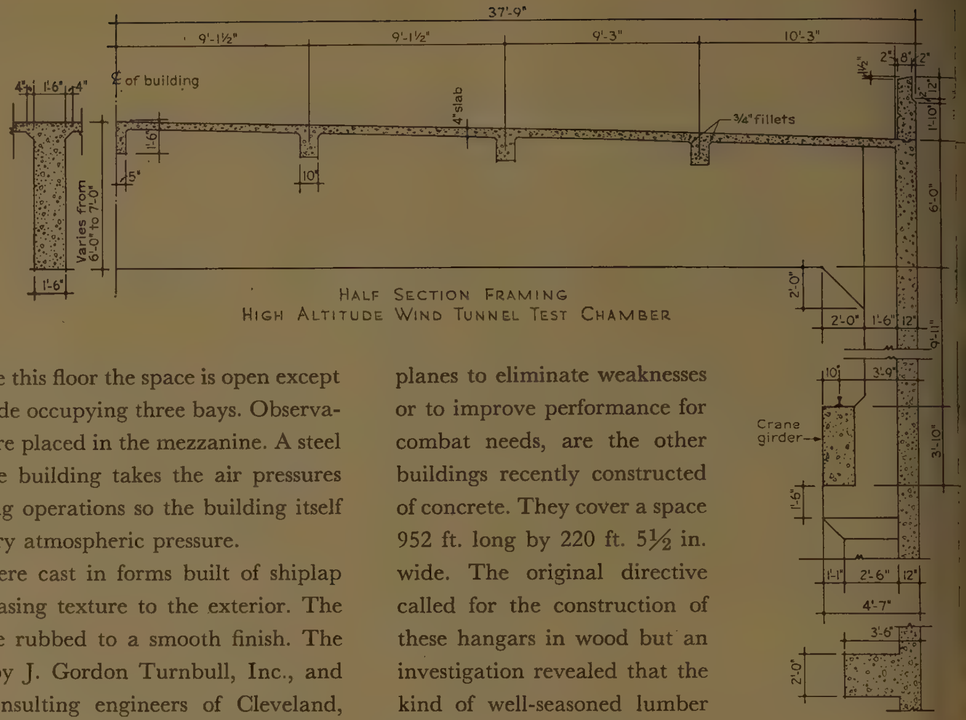
Looking down between outer and inner shells. Extreme accuracy was required in form work to give smooth surfaces of proper contour. When in operation, air passes downwar between the shells and upward through the center of the building.



from grade to top of parapet. It has a rigid frame concrete roof, with frames spanning the full width of the building on 21-ft. centers. Concrete crane girders are provided along each side of the building. The first floor is designed for 750 p.s.f. live load. Above this floor the space is open except for a mezzanine at one side occupying three bays. Observation and control rooms are placed in the mezzanine. A steel pressure cabin inside the building takes the air pressures created during the testing operations so the building itself is subject only to ordinary atmospheric pressure.

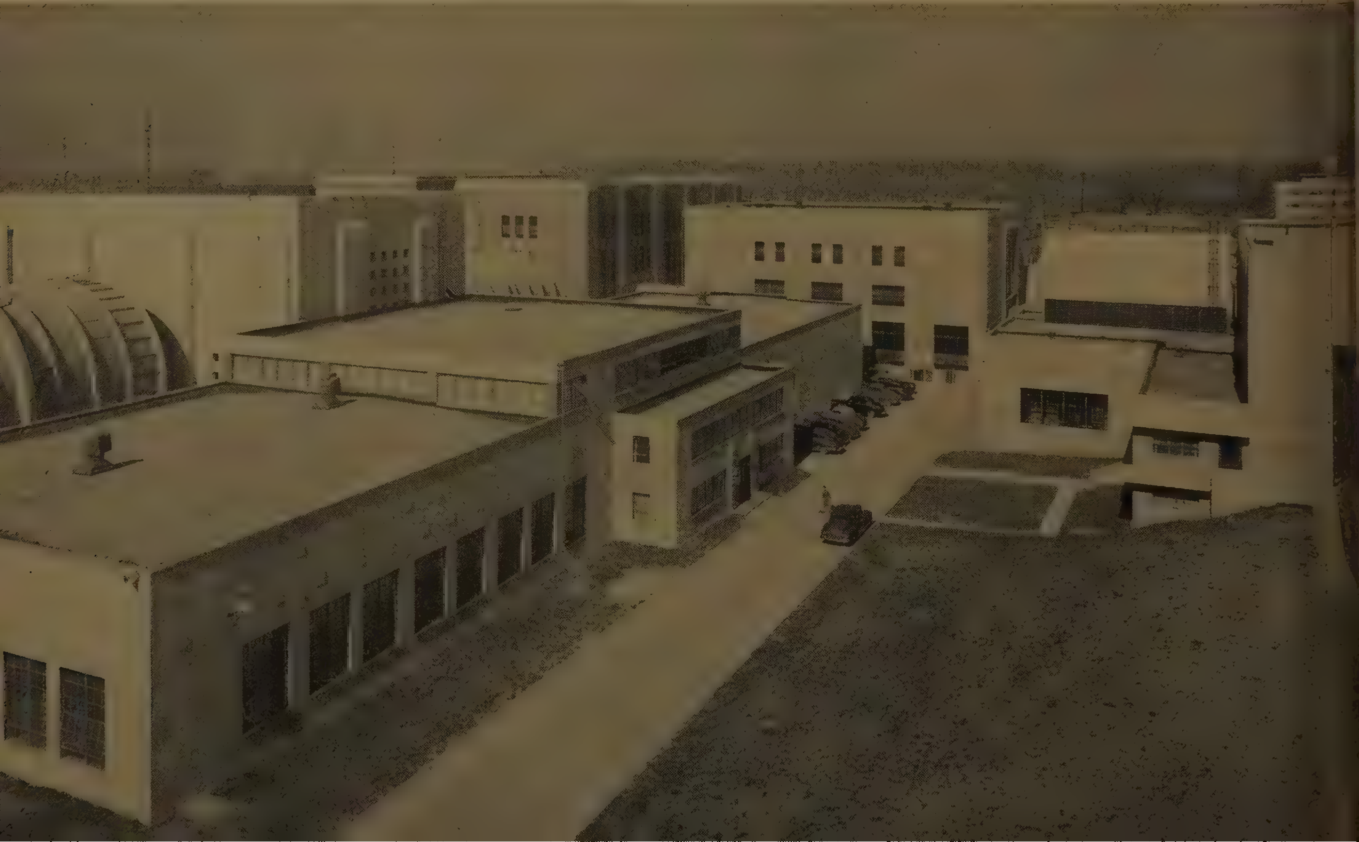
The concrete walls were cast in forms built of shiplap boards. This gave a pleasing texture to the exterior. The inside wall surfaces were rubbed to a smooth finish. The building was designed by J. Gordon Turnbull, Inc., and Sverdrup & Parcel, consulting engineers of Cleveland, Ohio, and St. Louis, Mo., for the Wright Field District Office of the U.S. Engineers. Simpson Construction Co., Chicago, Ill., was the contractor.

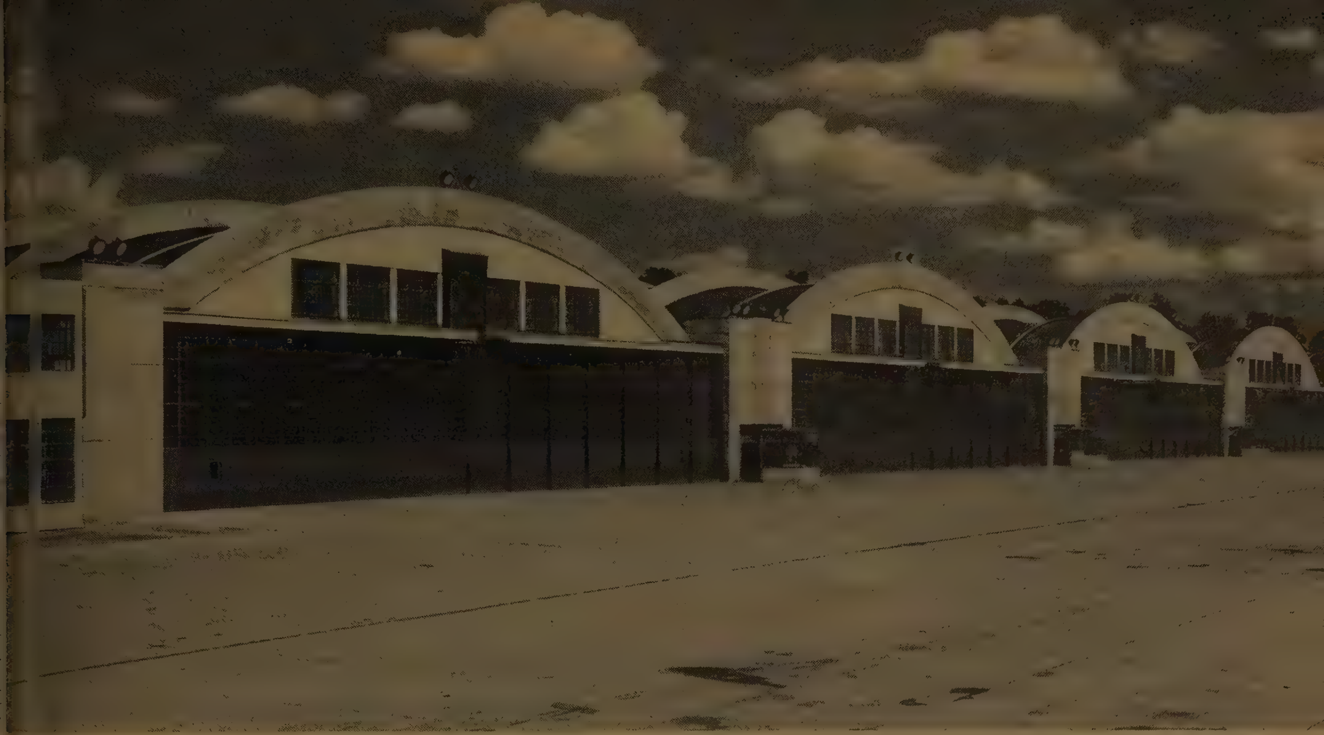
Five flight test hangars which provide space for altering planes to eliminate weaknesses or to improve performance for combat needs, are the other buildings recently constructed of concrete. They cover a space 952 ft. long by 220 ft. 5½ in. wide. The original directive called for the construction of these hangars in wood but an investigation revealed that the kind of well-seasoned lumber required was a highly critical material and that the cost of an all-concrete structure would compare favorably with that for wood. A change to co-crete was made therefore, with of course, the added a-



HALF SECTION FRAMING
HIGH ALTITUDE WIND TUNNEL TEST CHAMBER

Test chamber for high-speed, high-altitude wind tunnel, Wright Field, Dayton, Ohio. View taken from top of vertical wind tunnel, showing test chamber Tunnel No. 1 at left, test chamber for Tunnel No. 2 in center and cold chamber at right. J. Gordon Turnbull, Inc., and Sverdrup & Parcel, Cleveland, O and St. Louis, Mo., consulting engineers for Wright Field District Office of U.S. Engineers. Simpson Construction Co., Chicago, Ill., contractor.





hangars, Wright Field, Dayton, Ohio. The hangars are of concrete frame and roof construction, each having 160-ft. clear span. Concrete roof sl thick with arch ribs on the outside. Roberts & Schaefer Co., Chicago, Ill., engineers for Wright Field District Office of U.S. Engineers. Starre ., and Michael Pontarelli & Sons, Chicago, Ill., contractors.

tage of firesafety.

he five hangars, each having 160-ft. clear span, are 2 ft. 5½ in. long. Spaces between hangars, 27 ft. 6 in. le, are partitioned off to provide rooms for offices, stor- a, toilets and locker space the full length of the hangars. e arched roofs give a height of 45 ft. at the center of n and 17 ft. 1⅜ in. the edge. Height of rs is 25 ft. 5 in. with ail door at the cen- to permit the entry the heaviest mbers.

The center strip of floor slab is 8 in. ck, 60 ft. wide and s the length of each ngar. The 50-ft. wide bs on each side of center strip are 7 thick. The thicker ter slab allows for e heavier bomber eel loads which will confined to this area cause of the wide ng spread.

Movable forms were used for the barrel shell roof construction. The falsework supporting the roof forms was provided with wheels to operate on rails placed on top of the floor slab, which was placed as soon as the footings were in. Forms were 84 ft. long and two sets were used so that work could proceed on two hangars at one time. The

Interior view of flight test hangar. Ribs on the outside of the barrel shell roof produces a smooth ceiling which facilitated use of movable forms and provides an excellent light-reflective surface.

Each hangar was built in three sections with expansion joints separating the sections. The roof section in the center of this view is enclos in the protective covering for cold weather construction. One of the movable forms used for constructing the hangars can be seen in the distanc

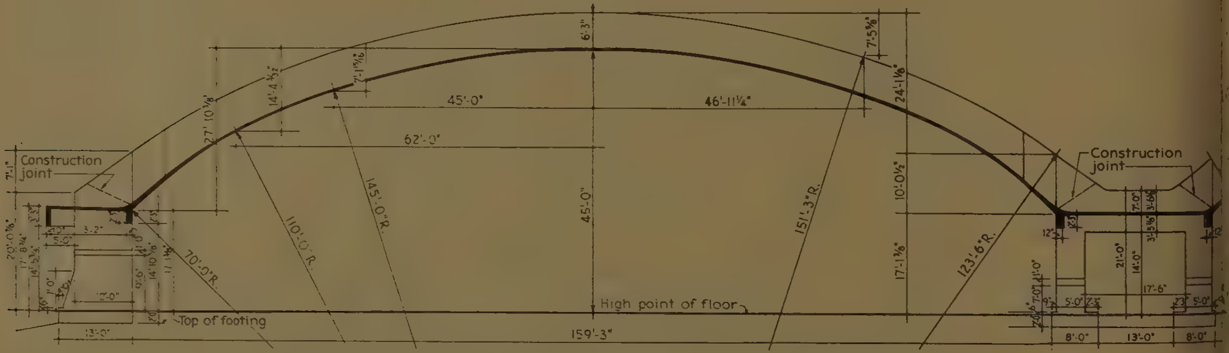
forms were moved twice for each hangar and the three sections comprising each hangar were separated by expansion joints. The smooth ceiling obtained by placing the 3¾-in. concrete roof slab at the bottom of the arch ribs, permitted moving the forms forward by lowering them very little. The smooth interior surface of the concrete shell roof is conducive to excellent lighting and good appearance.

The main arch stiffening ribs are 42 ft. on centers and are 6 ft. 3 in. deep and 2 ft. wide at the crown. Intermediate stiffeners on the shell are provided midway between the arch frames and are 1 ft. 8 in. deep and 12 in. wide.

Winter construction was necessary for this project. To provide heat for the roof slab work, unit heaters were installed in the form construction below the roof. A canvas cover was supported on light wood framing between t arch ribs, and holes were left in the slab to permit war air to enter the space between the slab and canvas cove This arrangement worked out very satisfactorily.

The flight test hangars were designed by Roberts Schaefer Co., consulting engineers, Chicago, Ill., for t Wright Field District Office of U.S. Engineers. Contracto were Starrett Bros., Inc., and Michael Pontarelli & Sor Chicago, Ill.

All of the structures described here were designed ar constructed under the direct supervision of the Distri Engineer, Wright Field District, Dayton, Ohio, and und the general direction of the Division Engineer, Ohio Riv Division, Columbus, Ohio.



FLIGHT TEST HANGAR···· SECTION SHOWING ARCH RIB AND SHELL ROOF

Southern California Gas Co. Builds Addition to Office Building

ROBERT V. DERRAH, ARCHITECT*

NUMBER 820 South Flower St. in Los Angeles is now occupied by one of the most modern office and customer service buildings in the public utility industry. For 1[illegible] years the Southern California Gas Co. has occupied the adjoining 13-story office building but the steady growth of the company accelerated by the general business expansion in Southern California, including a great amount of defense housing, demanded additional facilities and space. When the property was first acquired it was planned to remodel the two old store buildings occupying the site but it was soon realized that this would not provide sufficient space. A new four-story and basement building was then planned, designed so that two additional stories could be added as needed. When the construction was well under way it was decided to build these two stories also, making a six-story and basement building.

The building is a special purpose structure adapted to the housing of certain departments in connection with others which remained in the older structure. Principal of these is the customer department, where 50 employes receive incoming telephone calls for customer service—meter installations, adjustment of gas equipment, and the like—and deliver the resultant orders to the order dispatchers, who in turn contact service crews in the various outlying districts. Incoming telephone calls, from 2,000 to 7,500 per day, are dispatched to the various operators by an automatic telephone relay system of considerable size and

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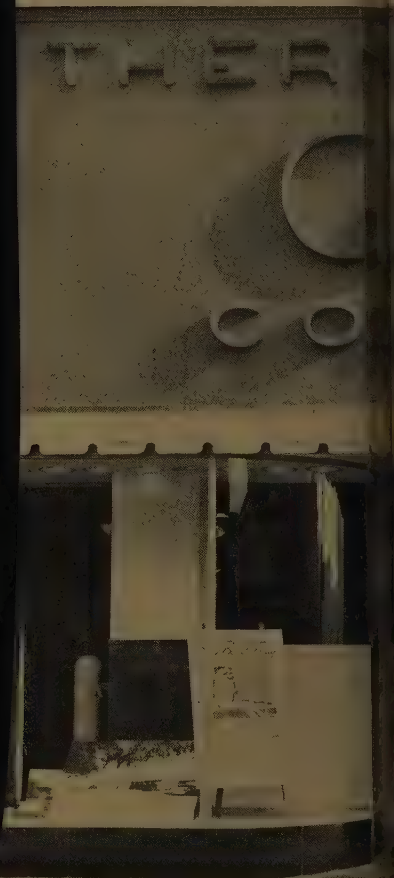
*Beverly Hills, Calif.

n are white Fluoron tubes illumina
nner characteristic of this plastic
ective display.

lls of the building were formed
in panels, three panels to each
ised by story heights as placing of
l exterior wall surfaces were lig

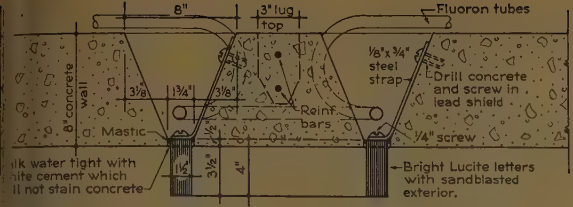


buildings in the interior, joints of accordion type were provided and at the thresholds of these openings the joints are of sliding plate type. Owing to the large window openings in the front wall, shear keys were provided in all construction joints located at the sills and heads of openings to insure ample shear resistance at these levels. The floor elevations and column alignment of the new building were coordinated with the old structure.

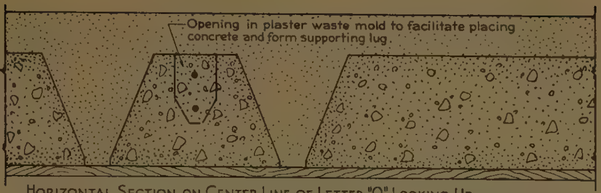
The smooth surfaces of the front wall and the penthouse walls were produced by casting the concrete in forms having plywood sheathing. Vertical lines on the front wall and horizontal lines on the penthouse walls were formed by nailing wood strips to the forms. The cornices and slots for the letters in the large panel over the display windows were formed with plaster molds. The letters are of welded Lucite strips 1½ in. wide projecting 3½ in. from the face of the

honed to remove occasional fins and were then painted wh
portland cement paint. The awning type steel sash windows
can be washed entirely from the inside and are set fl
with the exterior wall face to minimize collection of d
and streaking of the wall.

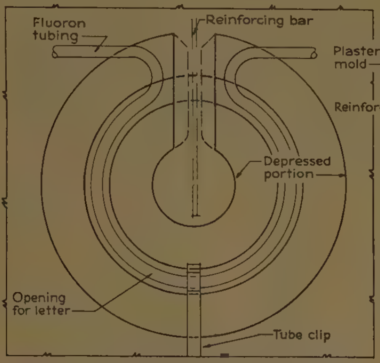
The broad windows at street level attract the passe
by their attractive displays which include a section o
model kitchen that has been set up in one window. The
ground story provides a spacious salesroom for the disp
of gas appliances. A dark brown wainscot of marble pla
and the terrazzo floor set off the merchandise to advanta
The upper walls have been paneled with photo murals a
vertising the uses of gas. Lighting of the main room is



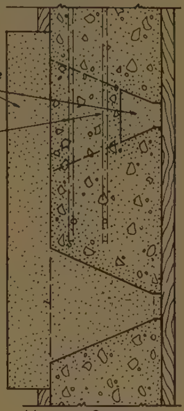
Detail of Wall Letter Anchorage
Horizontal Section on ℄ Looking Up


Opening in plaster waste mold to facilitate placing concrete and form supporting lug.

Horizontal Section on Center Line of Letter "O" Looking Up
Showing Plaster Waste Mold in Place



Elevation of Back of Letter "O" After Plaster
Waste Mold has been Removed



Vertical Section

e wide display windows and the lighted n above are attractive features. The ters are Lucite set in the concrete with orescent lighting tubes behind them. The ooth concrete surfaces were formed ainst plywood.

flush ceiling lens lights supplemented by spot lamps on the columns.

A broad stairway leads to the basement lobby, which is likewise arranged for appliance display, and this in turn leads to a 300-seat auditorium completely equipped with projection room, stage platform and loudspeaker system. The auditorium is used for lectures on cooking and classes conducted by the company. The backdrop of the stage is a permanent display kitchen centered on a large window behind which is a hand-colored photographic landscape mural illuminated to give the illusion of an outdoor vista. A large serving pantry and kitchen backstage provide facilities for quantity cooking in order to serve all guests at a lecture.

Upper stories of this building house personnel, purchas-

The main salesroom on the first floor provides effective display of merchandise set off by the terrazzo floor and dark wainscoting.

The basement has a 300-seat auditorium for demonstrations and lectures on cooking. The back of the stage is built like a home kitchen with an attractive window and painted scene back of it.

ing, rate and tax, and other departments. Interior details of the office spaces were designed for a minimum of upkeep. All base is a troweled plastic material flush with the plaster above and coved flush with the floor covering. The plaster was applied direct to the concrete. Door frames are pressed steel, flush with the plaster and all doors are slab type oa Ceilings are finished with perforated acoustic tile. Indire lighting has been installed throughout.

A complete and modern air conditioning system, entire operated by gas, with individual room thermostats, suppli properly conditioned air to every room. Each floor has i own supply and exhaust fans, heating and cooling coil and duct mixing dampers. Fresh air is drawn from common stack off the roof. Mixing dampers are supplie from a hot and a cold plenum. The hot plenum is heate by circulated warm water heated by boilers in the o building. The cold plenum is cooled by circulated chille water, cooled in the basement by a battery of cooling uni which operate on a cycle similar to the well-known g refrigerators, differing from these only in the respect th heat is supplied by steam from the gas-fired boilers instea of by gas flame direct as in the refrigerators.

Robert V. Derrah was the architect, Ralph E. Marvi structural engineer, Clayton Gibbs, electrical enginee Stockly & Bamford, mechanical engineers, and P. J. Walk Co., general contractor.

Decorative detail was made very simple to minimize form cost.

Washington Parish Jail-Health Unit

By Sam Stone, Jr., Architect*

ONE of the last public buildings constructed in Louis ana before the war put a stop to such activities is th Washington Parish Jail and Health Unit in Franklinton Architectural concrete had been enjoying an ever-increasin popularity in Louisiana and was therefore given considera tion for this job.

Upon investigation it was found that excellent sand an gravel were available locally, as well as form lumber fro local mills. Preliminary estimates revealed that the buildin

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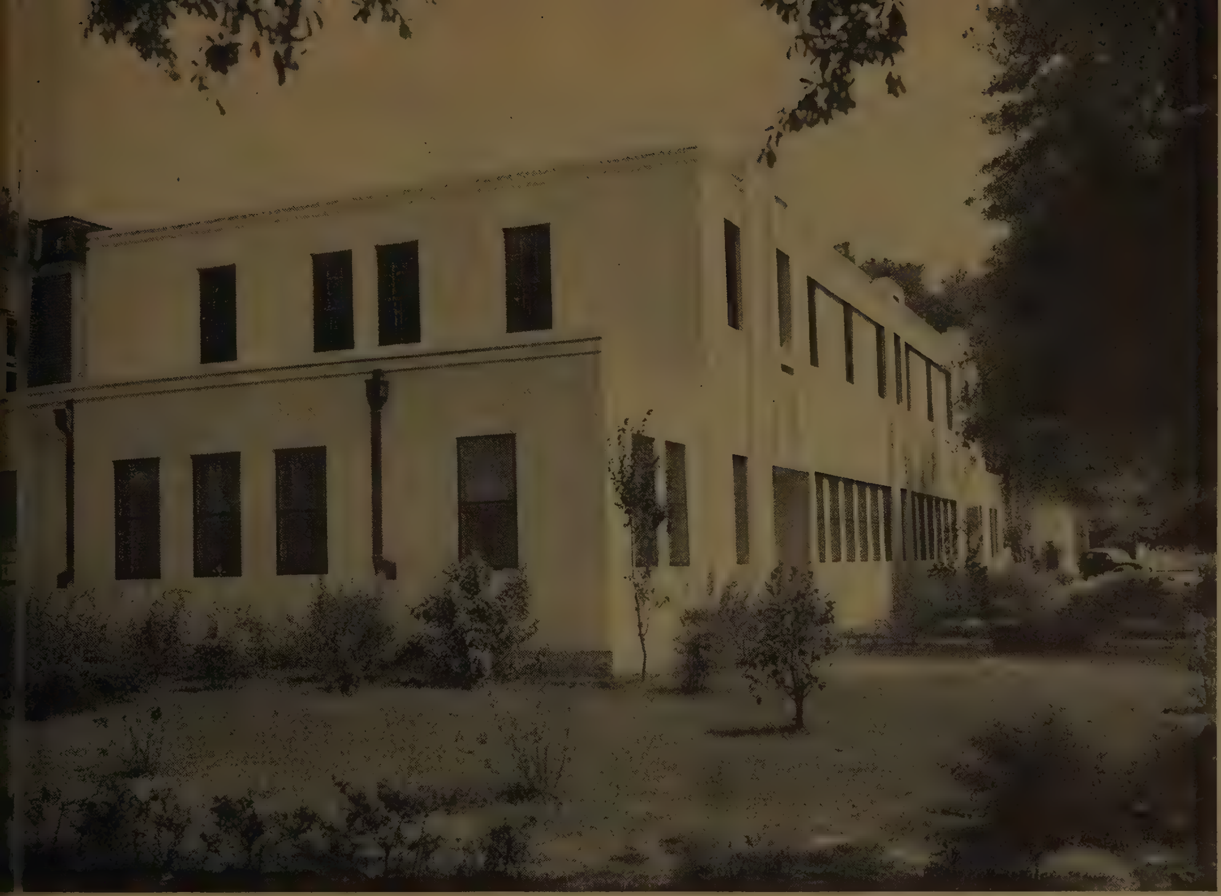
*Sam Stone, Jr., & Co., Inc., architects, New Orleans, La.



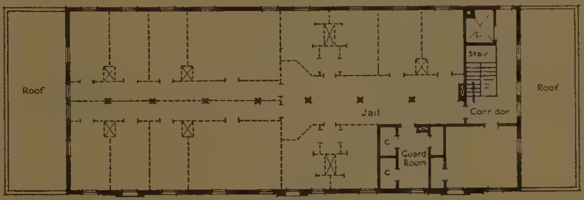
d Health Unit of Washington Parish at Franklinton, La., is a two-story building set well back from the street. Sam Stone, Jr., & w Orleans, La., architects.

c ld be built most economically in architectural concrete d to the availability of these materials and because the r jor portion of the necessary labor for this type of cons uction could be drawn from local sources. The building w s to be located on the public square so good appearance w s important, and the numerous examples of architectural co crete throughout the state were convincing evidence that desired appearance could be obtained with such cons uction. After careful study of all factors involved, the W shington Parish officials selected architectural concrete b ause it would give the most pleasing appearance, lowest i tial cost and least maintenance expense.

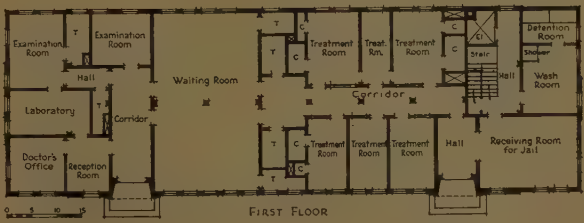
While a minimum of decoration was used in the design t educe form cost, it is common consensus that the simple o amentation, such as the bands at the tops of the parapet a l the corrugated panels over the entrances, is sufficient t relieve any criticism of plainness and the building is a asing addition to the community.

Serving a dual purpose, that of parish jail as well as using the offices and clinics of the parish health depart nt, the space is so arranged that there is no conflict be een the two. The health department occupies the first or, the jail the second floor. Steel bars proof against burglar tools were placed in the floor and ceiling slabs of the jail and the exterior walls of the jail are lined with steel plate.

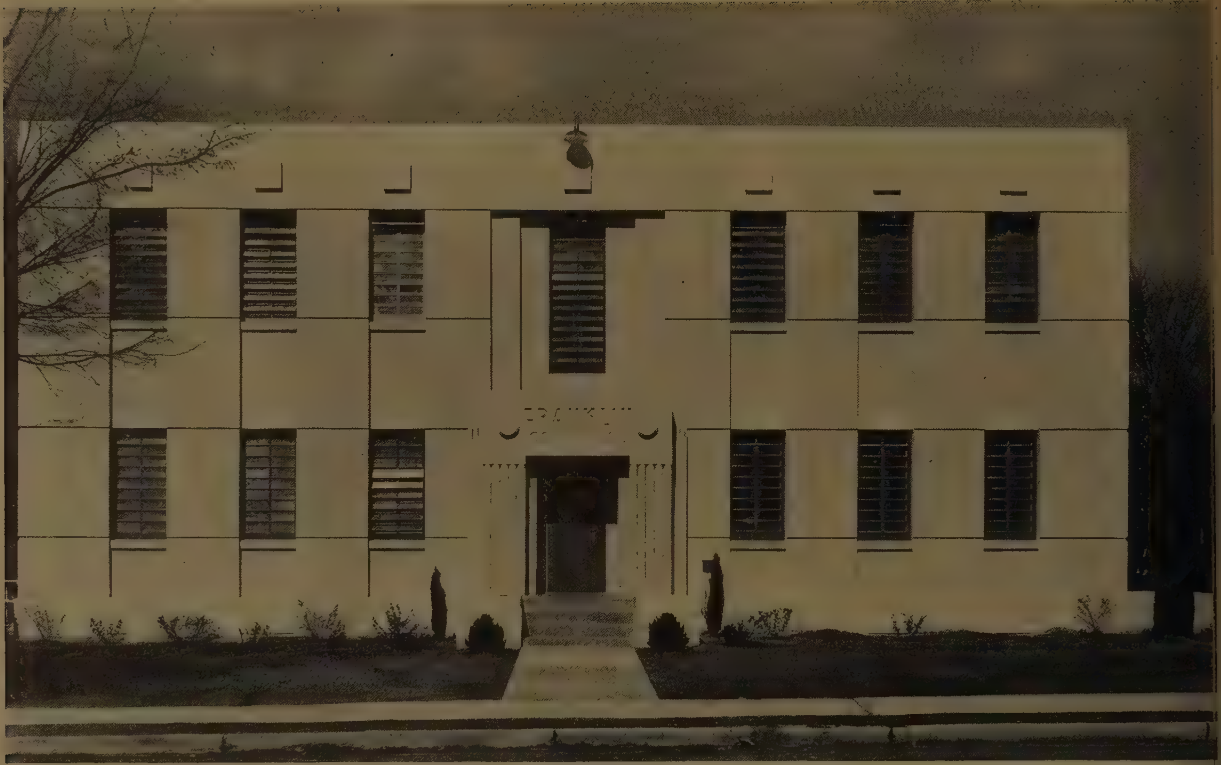
The building was designed by Sam Stone, Jr., & Co., Inc., architects of New Orleans, La. Carey M. Whitaker, Tylertown, Miss., was the contractor. The cost was $37,000 exclusive of jail equipment.



Second Floor



First Floor



Simplicity of design combined with use of architectural concrete resulted in a substantial saving in construction of Franklin County Ja, Russellville, Ala. E. B. Van Keuren, architect and engineer, Birmingham, Ala.

Franklin County Jail, Alabama

By. E. B. Van Keuren*, AIA

BEFORE selecting the material for the exterior walls of the new county jail for Franklin County, Ala., a study was made of the various masonry materials available and the labor situation in this area. The study included careful estimates of cost which indicated a substantial saving by using architectural concrete.

Designed in a simple, modern style, with little ornamentation, the building is a distinct asset to the community. Although the solidity of the construction is symbolic of the requirements for such structures, there is no vestige of confinement apparent to the average person on the exterior of the building. Special detention windows have been used throughout. These provide ample light and ventilation and have a good appearance. The cells are entirely independe of the exterior walls, a passageway being provided betwe them and the walls. While only a partial basement w planned originally, this was changed to a full basement d to the poor foundation conditions encountered.

The first floor has a good-sized vestibule, a large fiv room apartment and office for the sheriff, several receivi cells and cells for insane, each cell being equipped wi shower and toilet. A private entrance to the apartment at the side of the building. The second floor is divid into cells and day rooms for men and women. Here, to each cell is equipped with shower and toilet.

Exterior walls are lined on the inside with glazed t except in the sheriff's apartment where plaster has be a lied directly to the concrete. This construction is prac-ti . in this location but, of course, in most areas it would b ecessary to provide insulation. Nonslip ceramic tile has al been used on the floors of the cell rooms, and floors in th apartment are wood. Ceilings are exposed concrete exc . in the lobby and the apartment where they are lined w an acoustical material.

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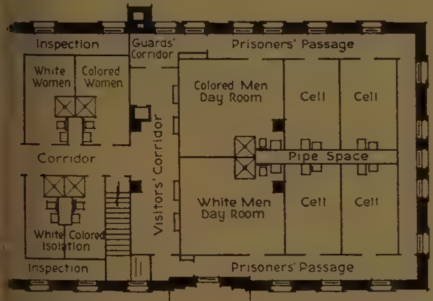
*E. B. Van Keuren, architect and engineer, Birmingham, Ala.

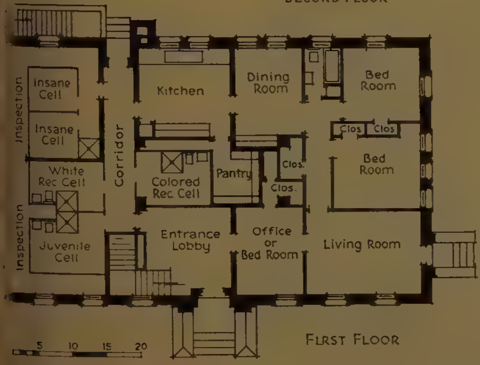
he exterior concrete walls are uniformly 12 in. thick. A forms were constructed of $\frac{5}{8}$-in. fir plywood with 2 -in. studs and double 2x6-in. wales. Tie rods were $\frac{1}{2}$-in. d neter and were completely removed after the concrete had hardened. The concrete mixture was designed with 6 gal. of water per sack of cement and a mix of $1:2\frac{1}{4}:3\frac{1}{2}$ with gravel coarse aggregate gave a readily placeable consistency. The sand was adjusted as necessary for bulking due to variations in moisture. A slightly wetter mixture was used when casting concrete against ornamental forms. Forms for all ornamental detail were made of wood. Horizontal rustications carried around the building at sills and heads of windows provided excellent locations for construction joints and concealed the joints from view. After removing forms the exterior concrete surfaces were cleaned but have been given no other treatment.

All formwork was done by carpenters, none of whom had had previous experience in this type of form construction. The architect furnished a full-time superintendent thoroughly experienced in reinforced concrete and form construction who acted as an instructor to the carpenters on the job. That they were well taught and appreciated the important part performed by carpenters on architectural concrete construction is shown by the excellent alignment and surface finish of the completed structure. The cost of this project was about $60,000 without the equipment.

es e of confinement is apparent in the architecture of Franklin ty ail.



Second Floor



First Floor

Forms for all ornamental detail were made of wood.

Two main buildings constitute the plant of Vard, Inc., Pasadena, Calif. Herbert A. Hamm, Pasadena, designing and supervising engineer. The first unit was constructed by the owner and the second unit by Wm. T. Loesch & Son, general contractors, of Pasadena, for the Defense Plant Corp.

Vard, Inc., Pasadena, Calif.

By Herbert A. Hamm, Engineer*

IN 1928, Vard Wallace built the first belt and pulley drafting machine. From a small beginning the business has grown until now it has 26 distinct departments. Establishing a diversified organization was not Vard Wallace's intention when he began the manufacture of drafting machines but the idea for such a machine has proved to be the foundation of what has developed into one of Pasadena's large war plants making a variety of products.

Originally known as Vard Mechanical Laboratory, the company did a large amount of experimental work. A foundry was installed in the plant to eliminate dependence on outside foundries for aluminum castings and this naturally required a pattern shop. Later it was decided to establish a small laboratory to carry on experiments in the field of optics and the optical department developed beside the machine shop and the foundry. When machines required for the manufacture of parts or for special purposes could e purchased, they were built in the plant. Gradually lant began the manufacture of new instruments and ift parts, particularly of the hydraulic type. By modi the original design of its drafting machine, the com has developed navigating instruments for use on airs. An extensive line of precision inspection gages is being produced.

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*Pasadena, Calif.

e plant of Vard, Inc., consists of two main buildings ar in design. The first (west) unit was constructed in and is a two-story structure 75x200 ft. with a basement x75 ft. It has reinforced concrete walls and floors on frame with slow-burning (mill type) wood roof on beams. The second (east) unit was built in 1942 and similar design except that roof slab is also reinforced rete. This building is also two stories 90x240 ft. with basement covering two-thirds of this area. In the second unit the ceilings are lined with a sound and heat insulation material. The building is air conditioned and some of the work areas have no natural illumination, being artificially lighted and ventilated. Temperatures are controlled to within ±5 deg. F. in work areas and to within ±1 deg. F. in the basement test room. A feature of the air conditioning system is the use of precipitator air cleaners.

The exterior of the buildings presents a most pleasing appearance in marked contrast to the too-prevalent drab, unattractive industrial building. The walls have the texture of the wood board sheathing used for the forms. Simply molded cornices at the second floor level and roof line and fluting at the entrance reveals constitute the only decoration. The buildings are set off by attractive landscaping.

Well-proportioned fenestration, simple moldings and an attractive texture have produced a pleasing effect.

Entrances are empha-ized by a slight pro-ection, fluted reveals nd glass block panels ver the doorways.

Architectural Concrete Building Replaces Burned Out School

By Everett Witt*

WHEN fire destroys a school building in a small community, educational functions invariably suffer a severe setback. That is exactly what happened at Smiths Grove, Ky. The brick school structure built in 1924 was damaged beyond repair by a fire that broke out early one morning. The monetary loss was approximately $50,000, covered by $26,500 insurance, but even worse was the disruption of the school schedule and the inconvenience of using makeshift classrooms in vacant stores in the attempt to carry on school activities for 300 pupils.

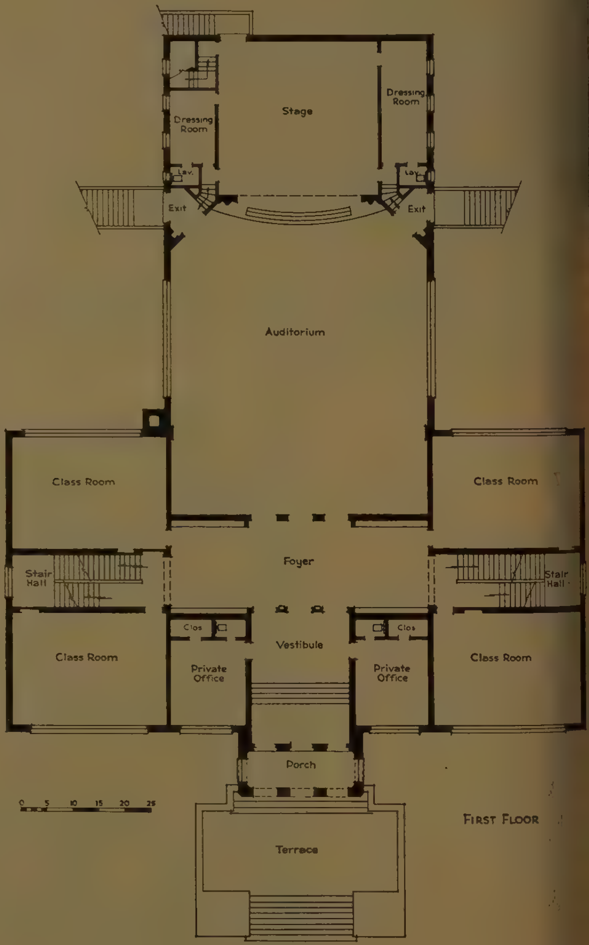
Fortunately, an enterprising school board immediately took up the question of rebuilding on the old site. From the start, all the board members agreed on one important point—the necessity of providing a new building as nearly fireproof as modern engineering could make it. After a thorough investigation of materials, costs and methods of financing, the board decided that an all-concrete building would best meet the requirements of firesafety and economical construction.

Moreover, the Work Projects Administration which was functioning at that time favored proposals for the construction of permanent types of buildings, and that federal agency gave enthusiastic endorsement of the board's plans to build an architectural concrete school. Exceptionally satisfactory experience with concrete construction elsewhere in Kentucky was a major factor in prompting the WPA to offer its assistance.

Harvey L. Settle, architect, of Bowling Green, Ky., was employed to design the building and ground was broken just six months after the fire. Construction was under the supervision of Jesse A. Calhoun.

The new building was ready for occupancy, and grade pupils and high school students of the consolidated school district held their first classes with the opening of the fall term in 1942. The school is known as North Warren High School and serves the north section of Warren County comprising about one-quarter of the area of the entire county.

Construction was carried out with WPA labor which was



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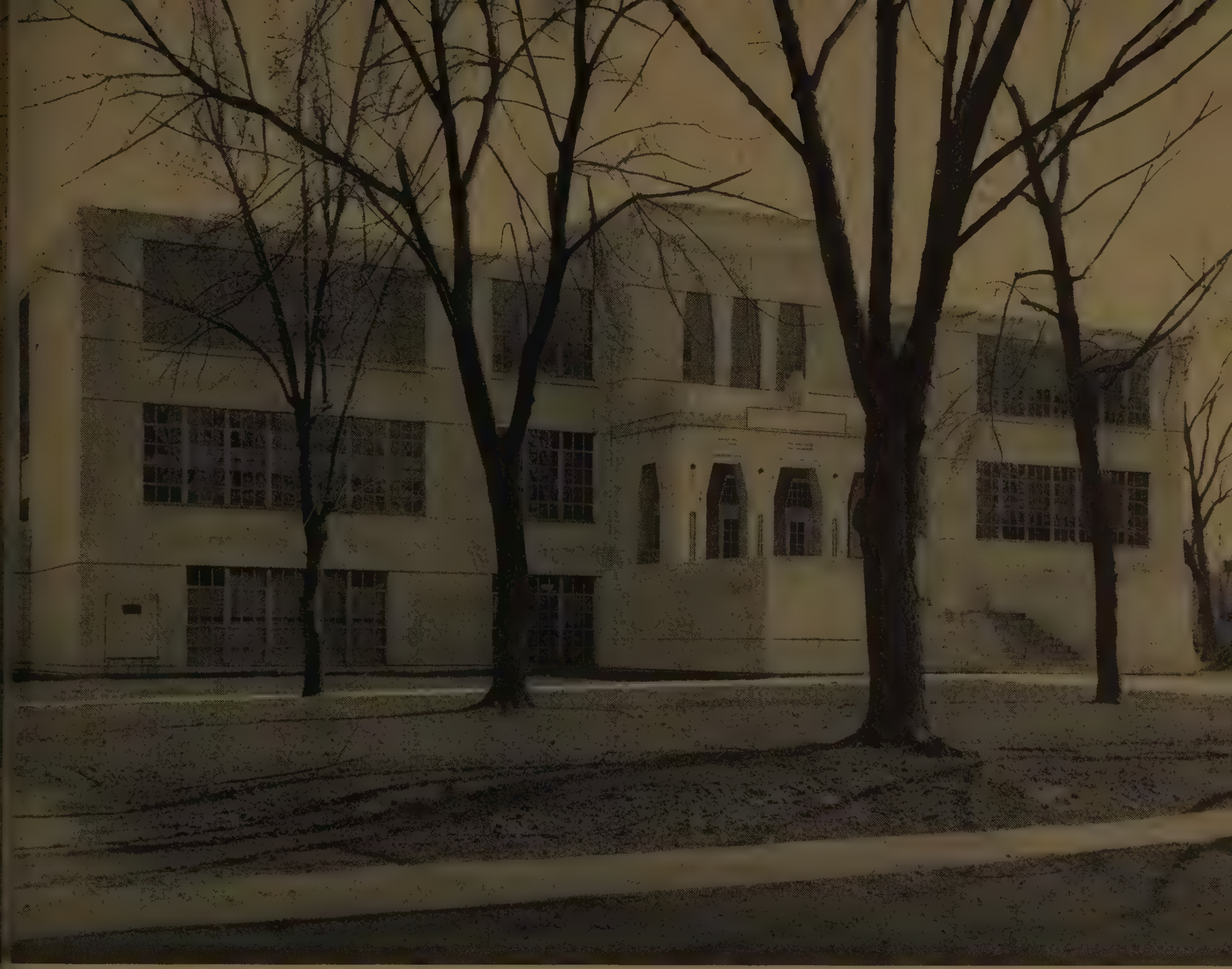
*Superintendent, Warren County (Ky.) Schools.



en High School, Smiths Grove, Ky., was built throughout of concrete when the school board decided such construction would best meet the require- safety and economy. Harvey L. Settle, architect, Bowling Green, Ky.

to be readily adaptable to concrete work. The careful given the design combined with the excellent work- hip and high quality of superintendence have given listrict a pleasing, economically built and durable l building. Total cost of the project, exclusive of the shings, was approximately $119,000. Labor cost inted to 52 per cent and material 48 per cent of the

e structure is constructed of concrete throughout. l members insisted on a thoroughly practical design, as to exterior appearance and interior arrangement, they are well satisfied with the results. The school has ement, first and second floors containing 23 rooms and ge auditorium with a stage, two dressing rooms and lavatories. There is also a subbasement housing the n heating plant and fuel room.

cording to the superintendent of construction: "The rete walls and partitions were formed against ⅝- and . plywood forms, and all exterior walls were given a clean-down finish. Rooms on the first and second floors have a plaster finish while those in the basement remain exposed with the wood grain of the plywood showing a rich surface pattern that lends distinctive character and beauty to the concrete.

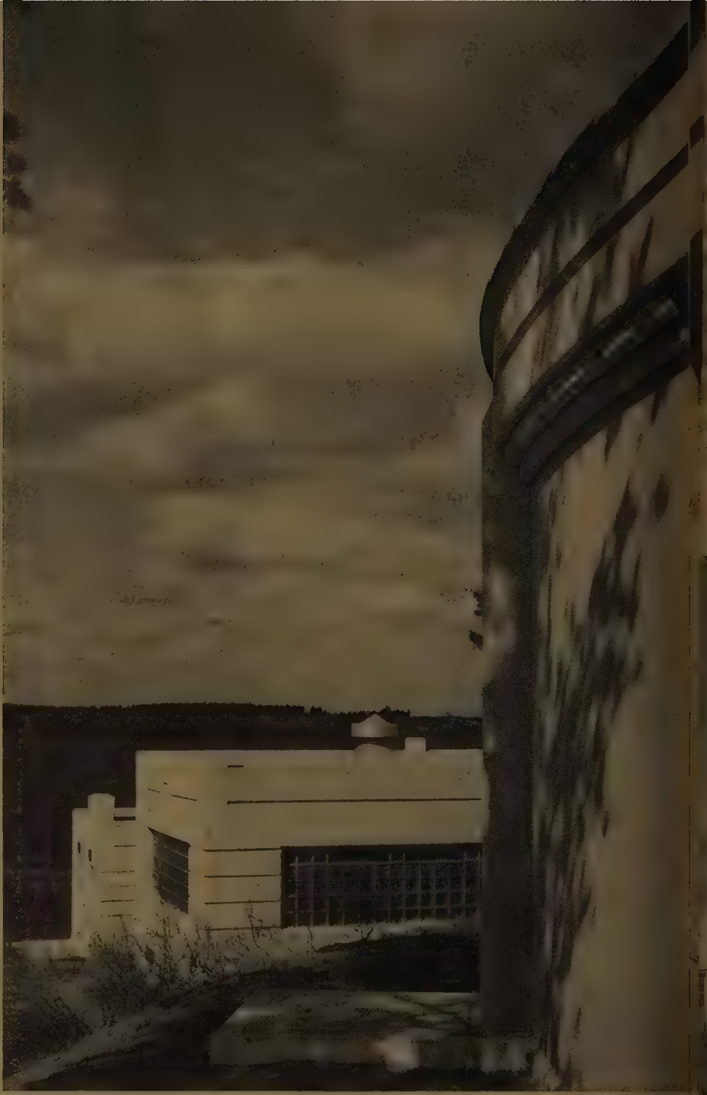
"Floors are of the pan-joist type, and the roof is a concrete slab with built-up roofing.

"Coarse aggregate for the concrete was local crushed stone while the fine aggregate included 25 per cent local crushed screenings and 75 per cent commercial sand shipped to the project. The concrete mix consisted of 292 lb. of crushed stone and 230 lb. of screenings and sand per bag of cement. The maximum allowable water was 6½ gal. per bag."

Here is a school that will meet every educational need of the district for many years to come. Also, it serves another practical purpose as a community center for the entire district, with the auditorium and other facilities in constant demand for all kinds of civic affairs.

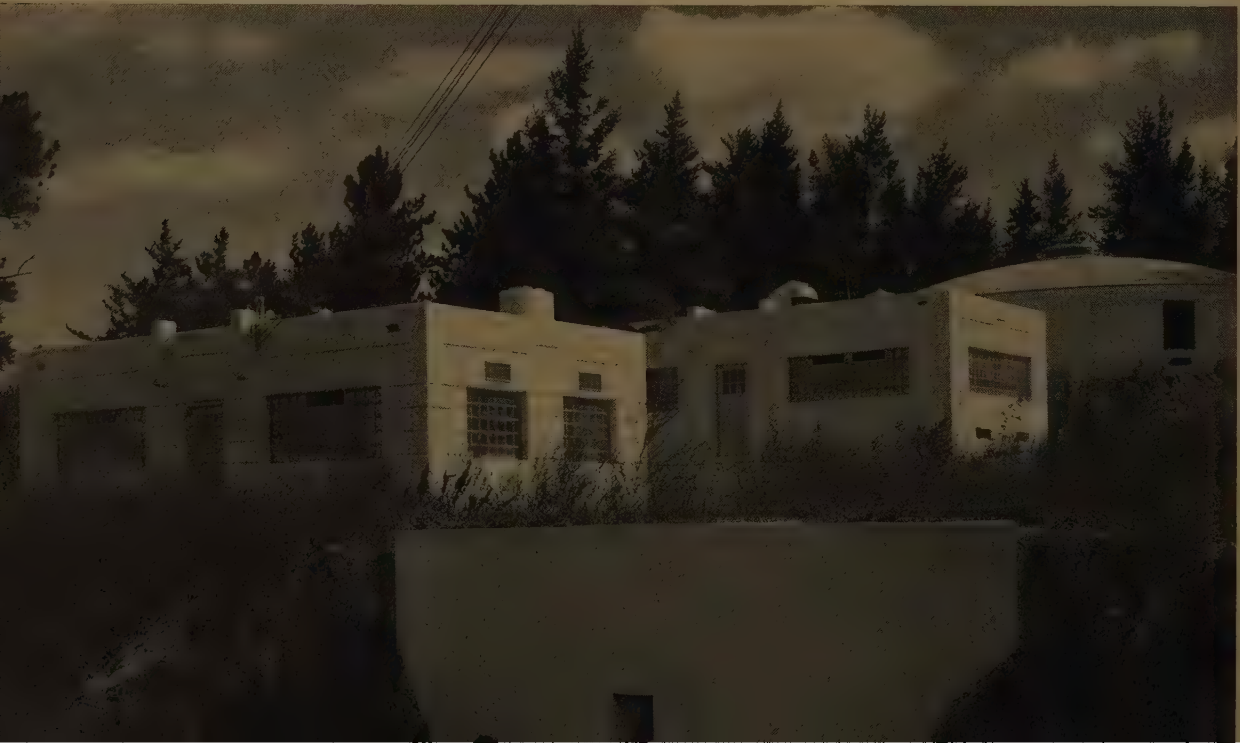
Sewage Disposal Plant — Bagley, Minn.

THE postwar construction program should include many new sewer systems and disposal plants. Sewage treatment plants are primarily intended to preserve the health of a community by preventing pollution of public waters and it is just as important for the smaller communities to have this protection as for the larger ones. When properly located and constructed such plants can be made attractive in appearance and be an improvement of which the community can be proud. This was the case in Bagley, Minn.



The two small buildings and tank constituting the sewage disposal plant at Minn., are placed on three elevations and form an attractive group.

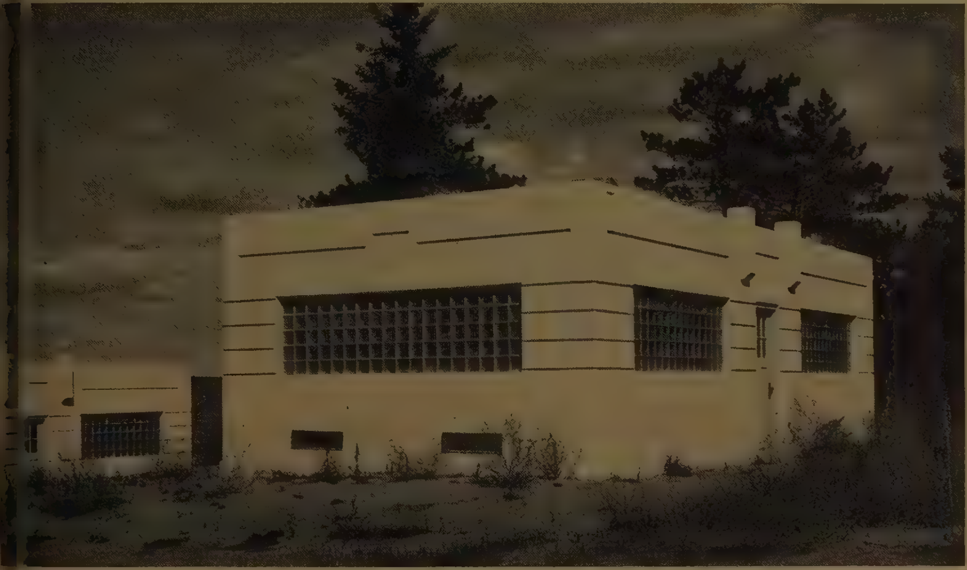
The hillside site and the dark green of the pine trees provide exceptionally fine contrast to the white structures.



plant consists of three structures: a circular trickling of concrete with concrete dome roof, an architectural ete building for primary and secondary settling tanks nother building of similar construction housing the ing and heating units. The location and design of the ures, the selection of the material and the landscaping all considered in the effort to make the plant archi- rally attractive.

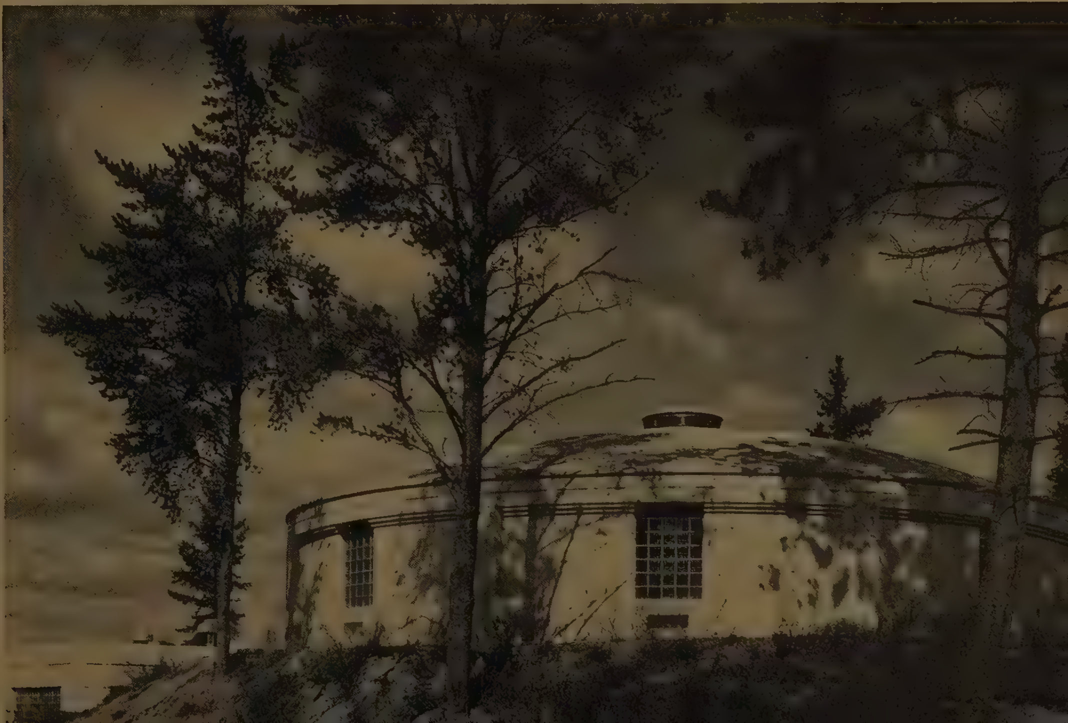
gley, the county seat of Clearwater County, is a village out 1,000 people. Because of the high ground level, ual difficulties in design and construction had to be The cost of the plant was $59,300 including a concrete sewage lift station uptown, costing $5,000 and serving a low-lying portion of the village. The sewer system consisting of about 21,000 ft. of mains and 194 house services cost $53,000, making a total of $112,300. This included land, legal fees, engineering cost, interest on bonds and all other overhead. The cost was financed by a PWA grant, sewer assessments, general obligation bonds and some village funds. The assessment was at the rate of $1 per front foot for the benefited property abutting on sewers plus $25 for each service connection, laid from street main to curb line.

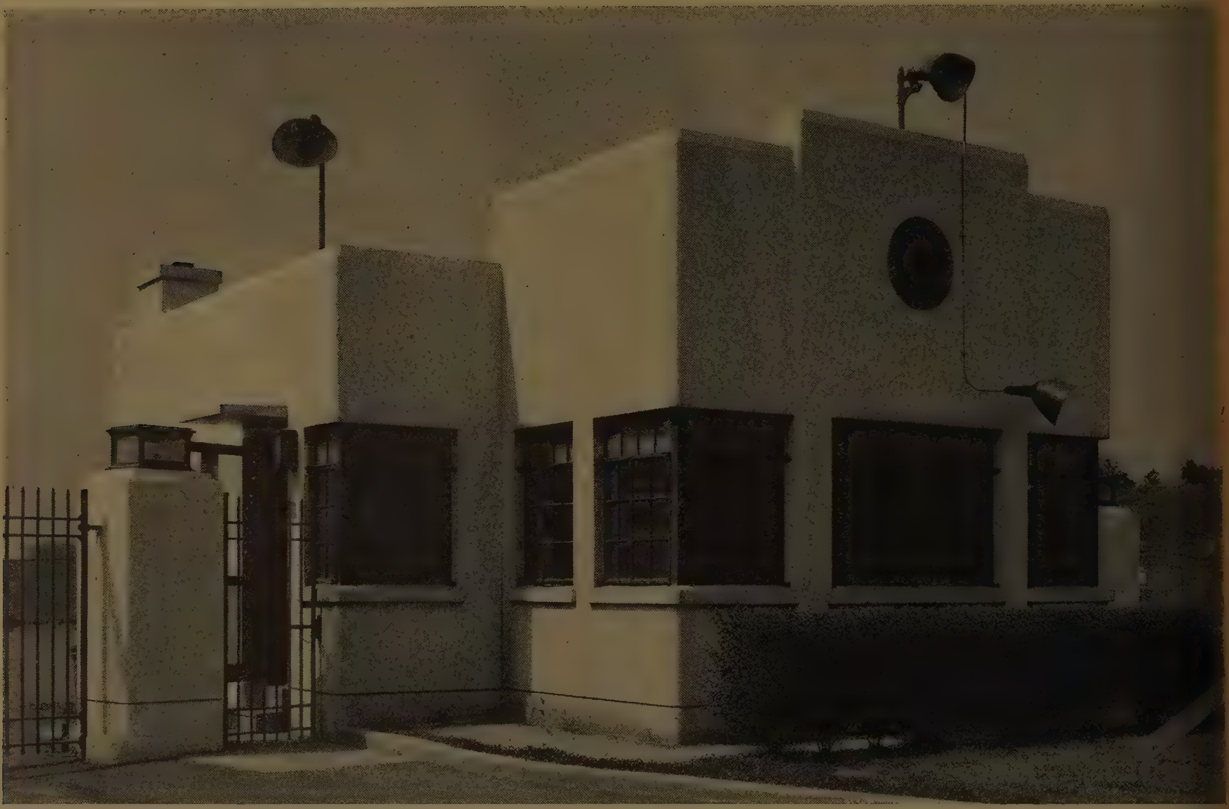
Druar & Milinowski, of St. Paul, Minn., were the engineers and Lametti & Lametti, St. Paul, contractors.



Two small buildings house the settling tanks and the pumping and heating equipment. The horizontal rustication strips are wider and deeper than usual to emphasize the long, low lines.

T circular trickling tank has a con- dome roof. While lly a functional ture it has been attractive by a le cornice, pilasters glass block win- .





Guardhouse at Curtis Bay Ordnance Depot, Baltimore, Md. The large windows and particularly the corner windows were provided to give maximum visibility of the approaches. The concrete walls are painted with portland cement paint. Work carried out under direction of Col. H. A. Willis, commanding officer. C. R. Scrivener & Co., Baltimore, Md., contractors.

Curtis Bay Ordnance Depot, Baltimore

By Garrett O. Billmire*

ADMINISTRATIVE and protective facilities constructed at the Curtis Bay Ordnance Depot near Baltimore, Md., during World War I served the reduced personnel for over 20 years but were badly in need of repairs and replacement when the United States started defense activities in 1940. Engineering work at this post had been done by civilians under the direction of the post commander but when a largely increased operating staff was anticipated for the new defense program, the commanding officer, Col. H. A. Willis, was appointed constructing quartermaster for the post and an engineering force was established to handle the post development. Among the buildings planned was a guardhouse, an administration building and a firehouse to replace wooden structures built during the last war.

The guardhouse was the first of the group planned, as maintenance of adequate security was an immediate necessity. Plans of similar structures at other depots were examined and Isaac Tepper, associate architect on the post, prepared several sketches for a building of modern design which were submitted by the constructing quartermaster to the Ordnance Department in Washington for selection of type and approval of funds. The modern design in architectural concrete was approved for the guardhouse. It was the fore logical and appropriate that similar construction be ed for the administration building and firehouse.

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*Major, Corps of Engineers, U.S. Army.

e guardhouse is a one-story building 26x28 ft., with 8-i walls except in the front part where the walls are 10 d 12 in. thick to provide desired depth of reveals. All co ers and offsets of the building are rounded. Corner wi ows were used in the front of the building to give mi mum visibility of the approaches. The roof slab over th corner windows was separated from the parapet walls by remolded expansion material.

onstruction of the building was carried on during the wi er months. It was completely enclosed in canvas so th work could proceed in any weather and concrete was pl ed successfully on the coldest days. The guardhouse was p ted with portland cement paint.

he administration building is a two-story and basement b ding 47x80 ft. The second story is 40x42 ft. set back f the first-story walls. A penthouse 13x14 ft. was pro- v d as a third story. The location of the penthouse and th ndoor range in the basement determined the structural d n and the columns were spaced accordingly. The s drels of the second story were designed as up-turned b ns supporting the second-floor slab and part of the first- fl roof slab. Spandrels of the penthouse were designed in th ame manner. To insure transmission of the load from th loor and roof slabs to the spandrel beam, stirrups were provided throughout the length of the spandrel and precast concrete shear blocks, 2x2x10 in., were provided in the construction joints in the spandrel.

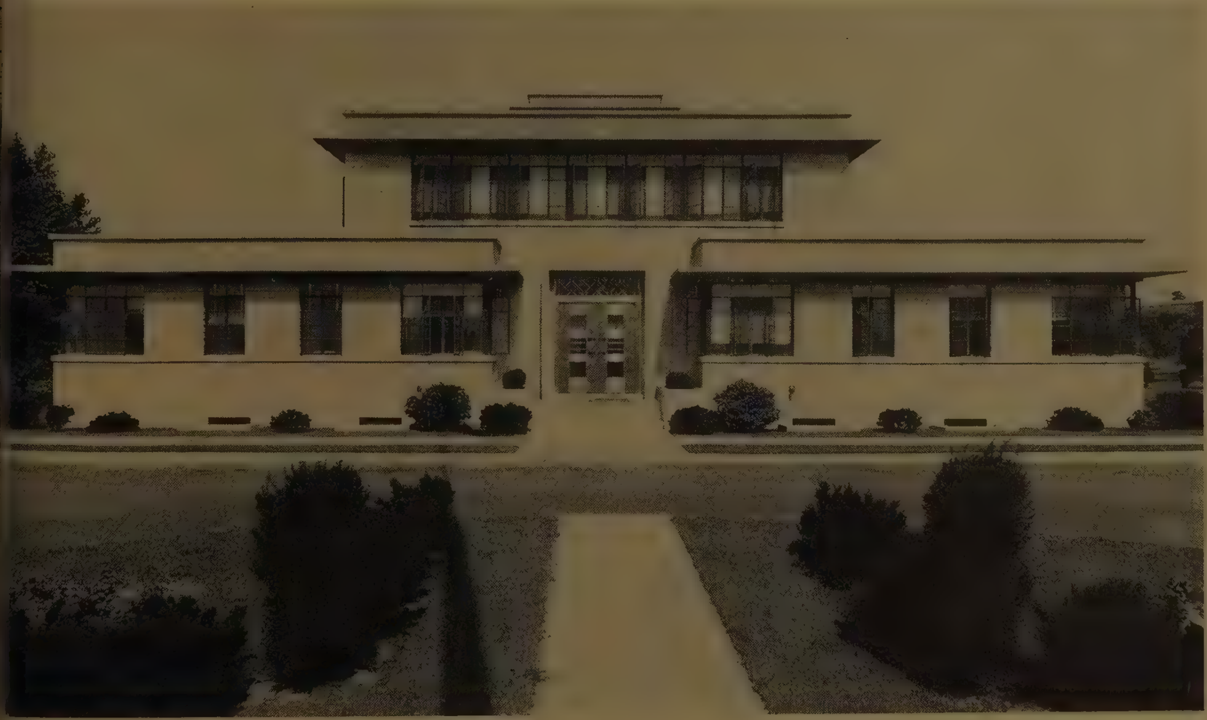
Exterior walls are 12 in. thick in the basement and 8 in. thick above. Plywood was used for outside form sheathing except for the piers between windows, giving a smooth exterior finish. The inside surfaces of the forms were lined with 2 in. of Thermax insulation against which the concrete was cast and which remained in place when forms were removed.

The predominating horizontal lines of the exterior are accentuated by the deep shadows cast by 2-ft. wide concrete canopies extending around the building at the tops of windows, the unusually wide projections of the copings and sills and by the formboard joint lines between windows. These joints were emphasized by chamfering 1x6-in. white pine boards to a ⅜-in. bevel so that when forms were stripped the ⅜-in. triangular-shaped beads extended beyond the flat surface.

The firehouse and dispensary building is similar in architecture and design to the administration building except that the second floor over the center fire-engine section is of pan-joist construction, because of the long spans required, and the up-turned beam design was not used for the spandrels.

On both buildings the forms were carefully laid out in

A inistration building at Curtis Bay Ordnance Depot, Baltimore, Md. Horizontal lines are accentuated by wide concrete canopies, unusually wi projections of copings and sills and by formboard joint lines between windows. C. C. Sanford Co., Baltimore, Md., contractor.



panels to get the maximum re-use, the minimum amount of cutting and to place the panel joints at symmetrical locations. Construction joints occur at floor lines, window sills and heads, and the concrete placing was scheduled to avoid joints at any other location. Concrete mixes for the exposed walls were adjusted during placing of the basement walls. It was found that the sand was so lacking in fines it was necessary to recover some of the fines lost in washing and recombine them. This greatly improved the workability, reduced the bleeding and produced sharp corners and smooth surfaces free from honeycomb or sand streaks.

Firehouse and dispensary building, Curtis Bay Ordnance Depot, Baltimore, Md. Horizon lines of the building are emphasized by the projecting eaves and by the horizontal board jo lines between the windows. C. C. Sanford Co., Baltimore, Md., contractor.

The locations of vertical control joints were indicated on the architectural plans. From all indications these joints have proved effective in the control of cracks. After all concrete had been placed and the roofing completed, the walls of these two buildings were finished by cleaning with a grout using ⅓ white and ⅔ normal grey portland cement. This was brushed on, worked into the surface with a cork float to fill all holes, then cut off with a steel trowel. Excess grout was removed by rubbing with a burlap sack, giving the walls uniform color and texture.

Plans, specifications and inspection for all three buildi were carried out under the direction of the commandi officer, Col. H. A. Willis, with post forces under the sup vision of Capt. M. H. Hefley and the writer. C. R. Scriver & Co., Baltimore, Md., were contractors for the guar house, and C. C. Sanford Co., also of Baltimore, was co tractor for the administration and firehouse buildin Construction at the post is now under the U.S. Engine District Office at Baltimore, Col. O. J. Pool, district e gineer.

Municipal Building—Fairview, Okla

By John C. Hope*, A.I.A.

FAIRVIEW is a small but importa county seat town in the cattle cou try of north-central Oklahoma. Wh plans were being made for a new ci hall, a couple of years ago, it was d cided that the undertaking should i volve additional facilities much need

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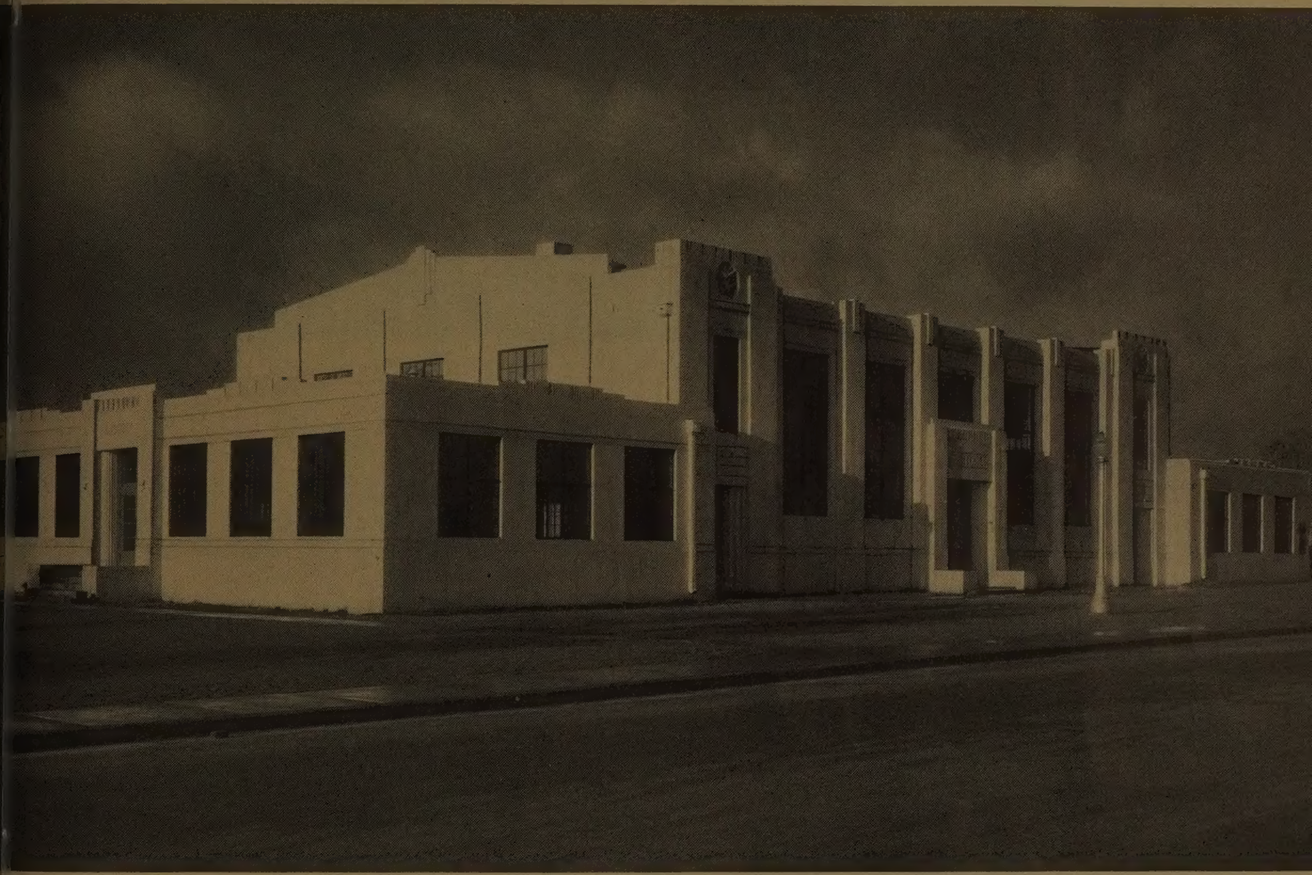
*Oklahoma City, Okla.

Plywood forms produced smooth surf Decorative features produced with wood m Control joints were placed on window ce in e community. As plans were finally approved, the pro t includes a rather large auditorium flanked on the wes by a wing housing city offices, and on the east by a libr y wing.

T e building was originally designed for brick with a cast sto trim in an architectural style involving modern lines an nasses with more or less formal detail. An alternate des n for architectural concrete was made, however, and wh bids came in the concrete design was $1,200 under th of the masonry.

Although admittedly it would have involved much less work to have designed in one material without considering an alternate, the results obtained are highly pleasing and satisfaction has been widely expressed throughout the community.

Walls were formed against large panels of plywood to produce smooth background texture for the detail. The decoration, employing repeating motifs on the several important facades of the structure, was done with wood molds in general although plaster molds were used for the large steer-head panels at the corners of the auditorium.



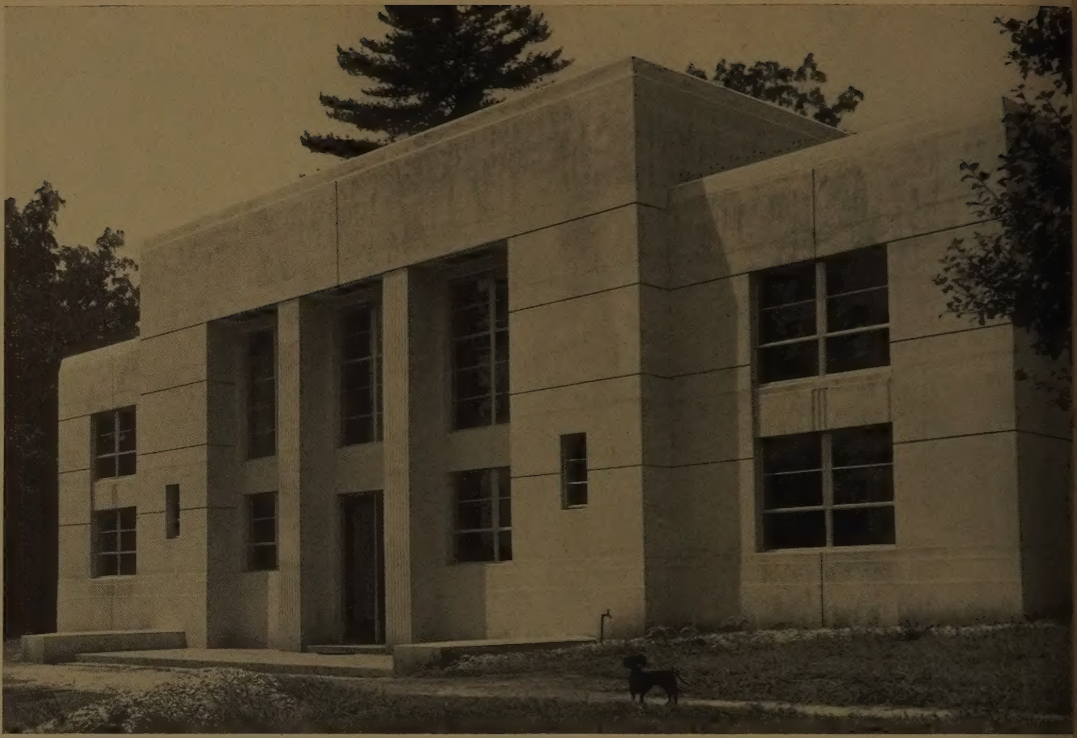
cipal Building at Fairview, Okla., houses a large auditorium in the central portion, city offices in the one-story wing to the right and the public library g to the left. John C. Hope, Oklahoma City, Okla., architect.

ince the building was designed with the idea in mind th it might eventually be done in architectural concrete, th change to concrete was made without too much diffic y. Since most of the decorative detail was in the cast st ne trim—a molded material—these details could be e ly produced by molding concrete in place. Concrete w ls, of course, required detailing of control joints and f ns. Wall insulation, not included in the masonry design, w used as the inside form and left in place.

No clean-down was required. The entire exterior was given two coats of portland cement paint applied with a spray.

Total cost of the building was $66,753. As the structure contains 345,000 cu.ft., the unit cost was 19½ cents—a very low figure.

The building was erected by Higgins & Higgins, of Oklahoma City.



Library building for Piedmont College, Demorest, Ga. The central portion is the reading room two stories in height. Fluting at the entrance was formed by nailing woodstrips to the forms. Vertical control joints are placed under and over the center of window openings and over the doorway. Norman F. Stambaugh, Atlanta, Ga., architect.

Library for Piedmont College — Georgi

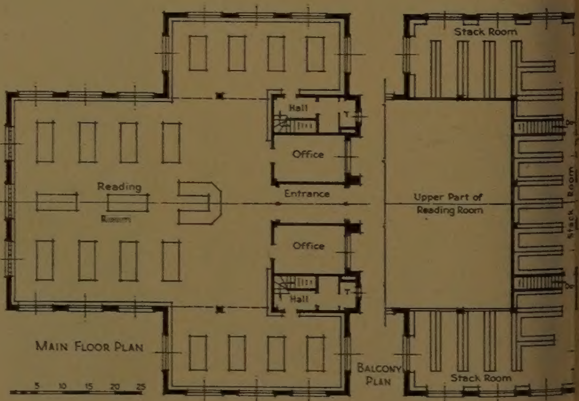
By Norman F. Stambaugh, Architect*

IN the north of Georgia, where the foothills of the southern Appalachians run out into the Piedmont, lies the little town of Demorest. In this town is Piedmont College, an interdenominational school for the mountain boys and girls of the region.

In 1939, when Dr. M. B. Dana was named president of the school, he surveyed the old library structure and found that not only were the volumes in the library subject to bad fire hazard, but the building itself was about to collapse from termite damage. So Dr. Dana wrote a letter to alumni and friends of the college calling for donations and pointing out that " . . . Piedmont has prided itself on being 'Mark Hopkins and a student on a log'**. If they are to continue to sit there someone must replace the log because the termites have eaten it out from under them."

The response to this call was generous, and sufficie funds were subscribed to make the new library possible.

At the time it was decided to go ahead on the ne library, I was just completing an architectural concre



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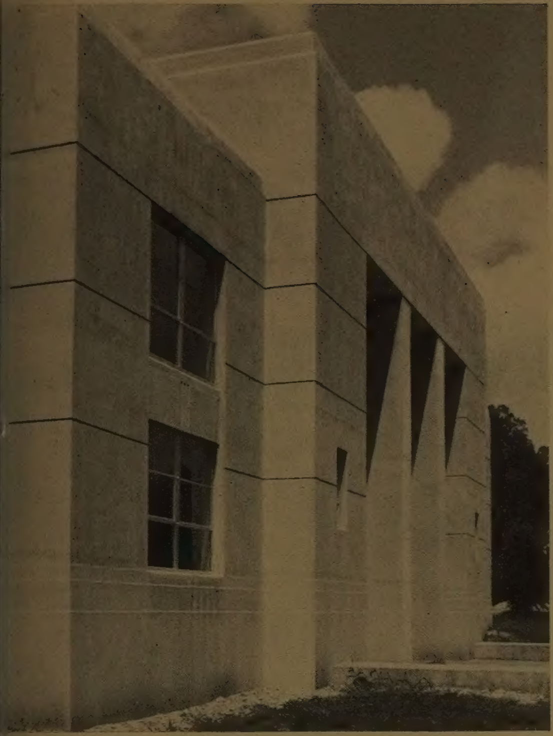
*Atlanta, Ga.

**Dr. Dana refers to a famous statement made by James A. Garfield concerning Mark Hopkins, president of Williams College: "*A university is a student on one end of a log and Mark Hopkins on the other.*"



p arrises and straight walls attest the quality of formwork.

ic school for the Demorest School District, which was first architectural concrete building. This school was well received and consequently, when I was asked to are plans for the library my logical choice of materials concrete. Concrete was selected not alone because I to work with the material, but because the library had e firesafe and termite-proof to protect the books, and in cost to stay within the rigidly limited funds available. her, this structure would set the architectural style for re construction on the campus, and a good start in the t direction was necessary.

he library was built by contract at a price of $19,300. . Wright, the Athens, Ga., contractor who was awarded job, agreed to use student labor wherever possible in r that the boys might gain credit toward their tuition. regates were supplied free by Habersham County.

his reasonable contract price purchased a rather large ding. The floor plan is T-shape and provides 6,500 sq.ft. rea. The reading room is located in the stem of the T has a clear, two-story ceiling height. Approximately students can be accommodated at one time. Book ks, offices, seminar rooms and lavatories are located in crossbar of the T, part on the ground floor, part at nd-story level on a balcony. The stacks are planned for ventual 30,000 volumes.

alls of the building vary from 8 to 10 in. thick and were formed against 4x8-ft. plywood panels. Form faces were treated with paraffin base oil. Sufficient panels were made to cover one lift half-way around the building. Thus, the complete set was re-used 10 times. It is interesting to note that at the end of the job these forms were still in good enough condition to be saved for future use.

Fluting on the pilasters at the entrance, and rustications at form lifts were made by tacking wood strips to the face of the forms. To prevent occurrence of random shrinkage cracks, control joints were used at the head and sill of window openings and in the spandrel above the main entrance as shown in the accompanying photographs.

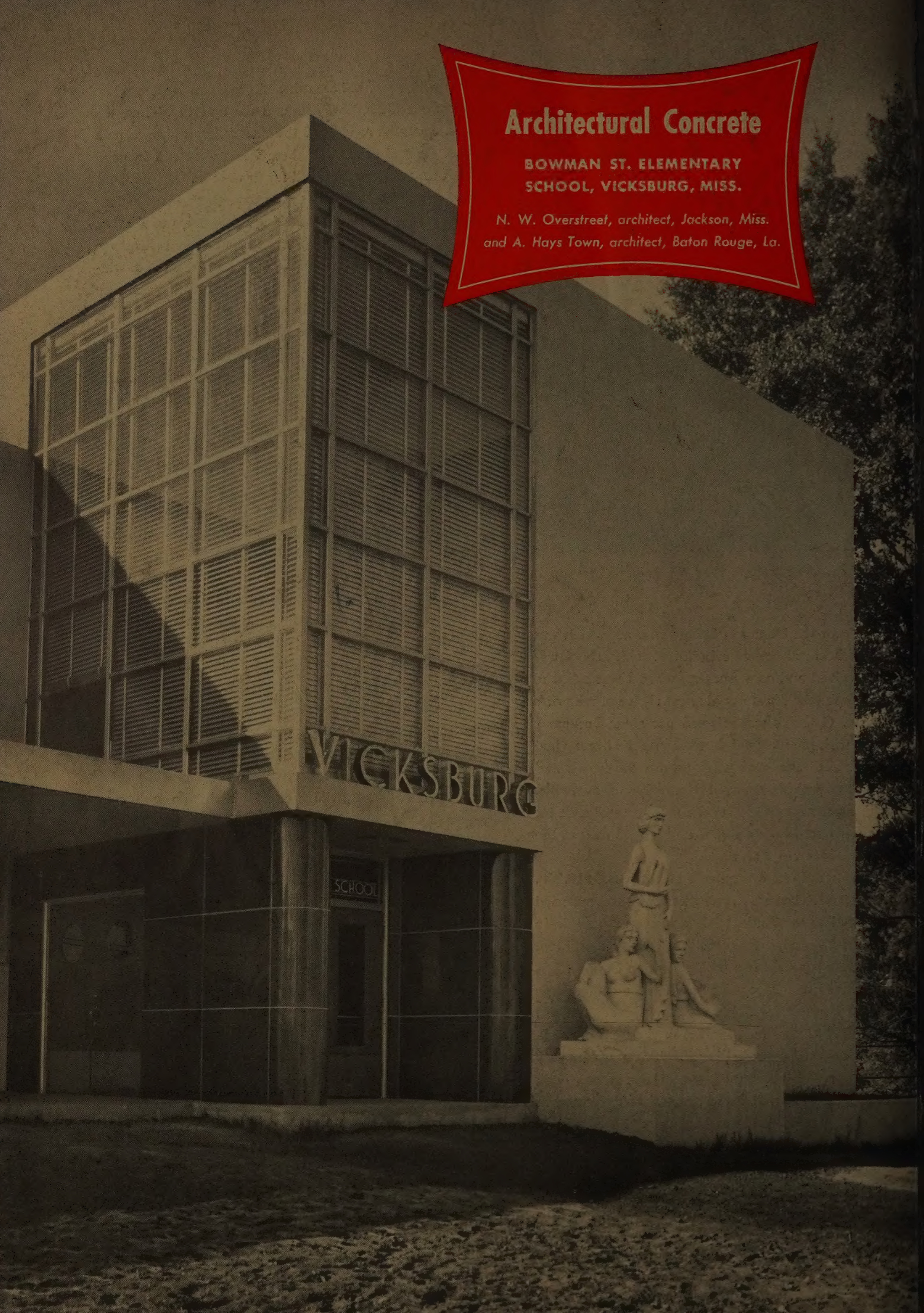
Exterior walls were finished by rubbing with carborundum stone and burlap and painted with a light grey commercial portland cement paint. Interior walls were finished with acoustical plaster directly on asphaltic plaster board.

Roof construction consists of lightweight concrete slabs on steel purlins and trusses. A suspended ceiling is finished with acoustical plaster while partitions are hollow tile with plaster finish.

The ground floor is a concrete slab on cinder fill while the balcony floor is slab and beam construction. All floors are finished with asphalt tile.

Subsequent to the completion of the Piedmont College library I have built three other architectural concrete school structures. The experience gained has confirmed my earlier convictions that the use of architectural concrete aids in bringing construction cost within the limited funds generally available for school buildings in most Southern communities. In addition the saving in maintenance and insurance is of importance to the taxpayers, especially during the period of liquidation of the bonds. It is the writer's conviction there is a vast field for architectural concrete in public, educational and industrial buildings when the architects, contractors and the public become fully aware of the merits of the material.

Appropriate for the building's occupancy are the numerous large windows which provide adequate daylight illumination in the reading rooms. The plain wall areas are relieved by horizontal rustications.



Architectural Concrete

**BOWMAN ST. ELEMENTARY
SCHOOL, VICKSBURG, MISS.**

*N. W. Overstreet, architect, Jackson, Miss.
and A. Hays Town, architect, Baton Rouge, La.*